

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DISH NETWORK L.L.C. and DISH TECHNOLOGIES L.L.C.,
Petitioner,

v.

DIGITAL BROADCASTING SOLUTIONS, LLC,
Patent Owner.

IPR2023-00977
Patent 9,538,122 B2

Before ST. JOHN COURTENAY III, SHEILA F. McSHANE, and
JOHN D. HAMANN, *Administrative Patent Judges*.

COURTENAY, *Administrative Patent Judge*.

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

I. INTRODUCTION

In this *inter partes* review, instituted pursuant to 35 U.S.C. § 314, DISH Network L.L.C. and DISH Technologies L.L.C. (collectively, “Petitioner”) challenge the patentability of claims 1–20 of U.S. Patent No. 9,538,122 B2 (Ex. 1001, “the ’122 patent”), owned by Digital Broadcasting Solutions, LLC (“Patent Owner”). We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons discussed below, Petitioner has shown by a preponderance of the evidence that claims 1–20 of the ’122 patent are unpatentable.

A. Procedural History

Petitioner filed a petition for *inter partes* review of claims 1–20 of the ’122 patent. Paper 1 (“Pet.”). Petitioner also filed the supporting Declaration of Dr. Kevin Jeffay. Ex. 1002. Patent Owner filed a Preliminary Response. Paper 7 (“Prelim. Resp.”).

On December 11, 2023, we instituted an *inter partes* review of claims 1–20 of the ’122 patent on the following grounds:

Claims Challenged	35 U.S.C. §	References/Basis
1–20	103(a) ¹	Casagrande, ² Russ, ³ Miller ⁴

¹ The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), amended 35 U.S.C. §§ 102, 103, and was effective on March 16, 2013. The ’122 patent claims the benefit of a filing date prior to the effective date of the applicable AIA amendments. *See* Ex. 1001, (code 63). Therefore, we refer to the pre-AIA versions of 35 U.S.C. §§ 102, 103.

² Casagrande, US 8,510,771 B2 (issued Aug. 13, 2013); Ex. 1006.

³ Russ, US 2006/0225105 A1 (published Oct. 5, 2006); Ex. 1008.

⁴ Miller, US 2009/0165057 A1 (published June 25, 2009); Ex. 1009.

Claims Challenged	35 U.S.C. §	References/Basis
1, 3–5, 7–11, 13–16, 18, 19	102(b) ⁵	Dow
1–20	103(a)	Dow, Russ, Miller

Paper 8 (“Inst. Dec.”), 9.

Subsequent to institution, Patent Owner filed a Patent Owner Response (Paper 11, “PO Resp.”), Petitioner filed a Reply (Paper 14, “Reply”), and Patent Owner filed a Sur-reply (Paper 15, “Sur-reply”). Petitioner relies upon the declaration of Dr. Kevin Jeffay in Support of Petitioner’s Reply. Ex. 1014. Patent Owner relies upon the declaration of Dr. Immanuel Freeman in support of its Response and Sur-reply. Ex. 2008.

We held an oral argument on September 10, 2024. A copy of the transcript of that argument was entered into the record. Paper 22 (“Tr.”).

B. Real Parties in Interest

Petitioner (DISH Network L.L.C. and DISH Technologies L.L.C.) identifies itself as the real party in interest. Pet. vi. Petitioner states that DISH Network L.L.C. “is directly or indirectly owned” by DISH Network Corporation. *Id.* Patent Owner Digital Broadcasting Solutions, LLC identifies itself as the sole real party in interest. Paper 6, 1.

C. Related Matters

The parties identify the following judicial proceeding in which the ’122 patent is asserted and which may affect, or be affected by, a decision in

⁵ Dow issued as US Pat. 7,251,413 B2 on July 31, 2007 (code 45), more than one year prior to the effective filing date of the ’122 patent (Oct. 24, 2011) (code 63). Ex. 1007.

this proceeding: *Digital Broadcasting Solutions, LLC v. DISH Network L.L.C.*, Case No. 2:22-cv-00335 (E.D. Tex.). Pet. vi; Paper 6, 1; *see* 37 C.F.R. § 42.8(b)(2). Patent Owner additionally identifies IPR2023-00976 as a related proceeding before the Board. Paper 6, 1.

D. The '122 Patent

The '122 patent is entitled “System and Method for Time Shifting at Least a Portion of a Program,” and relates to “storage and play back of time-shifted data.” Ex. 1001, code (54), 1:18–19. The '122 patent observes that digital video recorders (DVRs) allow a user to record data such as audio and video for play back at a later time, referred to as time-shifting, which provides the advantage of “allow[ing] a user to pause, rewind or fast forward a television program,” including “skip[ping] a portion of the program.” *Id.* at 1:23–27, 1:44–47. The features, however, present “a problem for the content owner and/or the content provider in that it allows the user to skip commercials, or paid advertisements, which can decrease the value of the program.” *Id.* at 1:47–50. The '122 patent proposes “a system and method for adding auxiliary data (e.g., advertisements, news tickers, ‘crawlers,’ etc.) to data that has been time-shifted.” *Id.* at 2:17–19.

In particular, the '122 patent describes a receiving device that may function as a standard receiver or a DVR, but when time-shifted data is being played, the receiving device “may be configured to acquire auxiliary data, and insert the auxiliary data into the time-shifted data, so that both the time-shifted data and the auxiliary data are displayed to the user.” *Id.* at 2:33–44. For example, in an embodiment, time-shifted data may be broken into three segments, and a receiving device may play a first segment in response to a user command to play the data, whereafter the receiving device

may play auxiliary data. *Id.* at 6:43–55. Then, the receiving device may play the second segment, followed by more auxiliary data, followed by the third segment. *Id.* at 6:55–57. However, in an embodiment, a “processor . . . is configured to display auxiliary data only when the time-shifted data is being played, and not when the time-shifted data is in rewind or fast forward”; rather, auxiliary data “is only displayed when the time-shifted data is being played, in a forward direction, and at a normal (or original) speed.” *Id.* at 10:15–27.

More directly related to the claims, the Abstract (code 57) describes one embodiment of the ’122 patent in which

a receiver, which may be configured to function as both a receiver and a DVR, is configured to receive a video program having both primary and secondary portions. The receiving device is further configured to play both portions of the video program if the program is being watched (a) during a first period of time or (b) during a second period of time and a user desires to watch both portions, and to play only the primary portions if the program is being watched during the second period of time and the user desires to watch only the primary portions. By doing this, the user can avoid the secondary portions when those portions have a diminished value to the user, the content owner, the content provider and/or advertisers.

E. Illustrative Claim

Petitioner challenges claims 1–20 of the ’122 patent. Pet. 8. Of the challenged claims, claims 1, 11, and 18 are independent. Claim 1, reproduced below, is illustrative of the challenged claims, and recites the following (bracketing and identifiers added):

1[Pre] A digital video recorder (DVR) for time shifting at least one video program, said video program being transmitted over a data distribution system, comprising:

1[a][i] a tuner for receiving a plurality of video programs,

wherein (i) said plurality of video programs are transmitted at the same time on a single channel within said data distribution system,

1[a][ii] (ii) said tuner can be tuned to said single channel to receive said plurality of video programs, and

[1a][iii] (iii) at least one of said plurality of video programs includes at least first, second and third portions, wherein said second portion as transmitted is configured to follow said first portion, and said third portion as transmitted is configured to follow said second portion;

1[b] a memory device for storing said plurality of video programs, allowing said one of said plurality of video programs to be played back at a later time;

1[c] a controller configured to receive commands from a user of said DVR, wherein a first command changes said DVR from a first playback state to a second playback state, a second command initiates playback of said one of said plurality of video programs from said memory device, and a third command instructs said DVR to receive and store said plurality of video programs; and

1[d][i] at least one processor configured to (i) provide said one of said plurality of video programs in its entirety to a display device in response to receiving said second command during a first period of time,

1[d][ii] (ii) provide said one of said plurality of video programs in its entirety to said display device in response to receiving said second command during a second period of time if said DVR is in said first playback state, and

1[d][iii] (iii) provide only a portion of said one of said plurality of video programs to said display device in response to receiving said second command during said second period of time if said DVR is in said second playback state, said portion of

said one of said plurality of video programs including at least said first and third portions of said one of said plurality of video programs, wherein said third portion is provided to said display device immediately following said first portion if said second command is received during said second period of time and said DVR is in said second playback state;

[1e] wherein said second period of time is a period of time after said first period of time.

Ex. 1001, 11:60–12:39; Pet. 1–2.

II. ANALYSIS

A. Principles of Law

To prevail in its challenge to Patent Owner’s patent claims, Petitioner must demonstrate by a preponderance of the evidence that the claims are unpatentable. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). “In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). The burden of persuasion never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (citing *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1326–27 (Fed. Cir. 2008)) (discussing the burden of proof in *inter partes* review).

A claim is unpatentable under 35 U.S.C. § 103(a) 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 of the invention to a person having ordinary skill in the art. *KSR Int’l Co. v. Teleflex, Inc.*, 550

U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including the following: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness.⁶ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). “A determination of whether a patent claim is invalid as obvious under § 103 requires consideration of all four *Graham* factors, and it is error to reach a conclusion of obviousness until all those factors are considered.” *Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1048 (Fed. Cir. 2016) (en banc) (citations omitted). “This requirement is in recognition of the fact that each of the *Graham* factors helps inform the ultimate obviousness determination.” *Id.*

B. Level of Ordinary Skill

We consider the asserted grounds of unpatentability in view of the understanding of a person of ordinary skill in the art (POSITA).⁷ In assessing 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) (quoting *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986)). “[O]ne or more factors may predominate.” *Id.*

⁶ The parties do not address objective indicia of nonobviousness, which accordingly do not form part of our analysis.

⁷ We note the acronyms “POSITA” and “POSA” are used interchangeably by the parties and the Board as referring to a person having ordinary skill in the art.

Relying on the declaration of Dr. Jeffay, Petitioner contends that an ordinarily skilled artisan for the '122 patent “would have been someone with at least a bachelor of science in electrical engineering, computer engineering, computer science or a similar technology degree, as well as two years of relevant industry experience, including Internet networking architectures, digital programming delivery, and STBs.” Pet. 9 (citing Ex. 1002 ¶ 41).

Patent Owner does not dispute Petitioner’s level of skill of a person of ordinary skill in the art: “For the purposes of this Response only, Patent Owner does not dispute the level of skill of a person of ordinary skill in the art (‘POSITA’) identified in the Petition.” PO Resp. 5 (citing Pet. 9).

We determine that the level of ordinary skill proposed by Petitioner is consistent with the challenged patent and the asserted prior art, and we therefore adopt that level for purposes of our analysis below. On the present record, we are satisfied that this definition comports with the level of skill necessary to understand and implement the teachings of the '122 patent and the asserted prior art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (explaining that the prior art itself can reflect appropriate level of ordinary skill in art).

C. Claim Construction

We apply the same claim construction standard that would be used in a civil action under 35 U.S.C. § 282(b), following the standard articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). 37 C.F.R. § 42.100(b) (2022). In applying such standard, claim terms are generally given their ordinary and customary meaning, as would have been understood by a person of ordinary skill in the art, at the time of the invention and in the

context of the entire patent disclosure. *Phillips*, 415 F.3d at 1312–13. “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17). “There are only two exceptions to this general rule: (1) when a patentee sets out a definition and acts as his own lexicographer, or (2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.” *Thorner v. Sony Comput. Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012).

Only those claim terms that are in controversy need to be construed, and only to the extent necessary to resolve the controversy. *Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

We find two of the claim terms are in dispute between the parties: “a first period of time” and “a first command,” as articulated by the Patent Owner in the Response, and by Petitioner in the Reply. PO Resp. 6–9; Reply 3–5. We address these claim terms below.

1. a first period of time

We note claim 1[e] expressly requires the second period of time to occur after the first period of time. However, the parties’ proposed constructions of “a first period of time” are in dispute. Petitioner proposes that the first period of time, as recited in independent claim 1, is not limited

to occurring after the entire program has been transmitted, or else dependent claims 6 and 13 would be superfluous. Reply 3–4. Patent Owner disagrees, and contends the first period of time begins after the entire video program has been transmitted to the DVR. PO Resp. 6 (citing Ex. 2008 ¶ 47).

Patent Owner states: “It is important to note that (A) the entire video program (including first, second, and third portions) are received and stored in memory before playback is commenced.” PO Resp. 4. Patent Owner further explains the intended distinction between the first period of time and the second period of time:

Specifically, the claimed digital video recorder (DVR) places specific, time-based restrictions on when the user can skip a transmitted commercial: the DVR must preclude the user from skipping the *transmitted commercial* during a first period of time and allow the user to skip the same *transmitted commercial* during a second period of time.

PO Resp. 1.

We understand Patent Owner’s position is that in order for the DVR to “receive and store said plurality of video programs” (claim 1[c]) under the limitations of the independent claims, the “first period of time” cannot start until after the transmission of the entire video program(s) to the DVR where it is stored. We do not agree.

We emphasize that claim 1 is silent regarding when the “first period of time” begins. Because the ’122 patent describes a buffered streaming embodiment in which a program may be played and then paused for a time period depending on the size of the buffer, and then resumed, we find support for Petitioner’s argument in the claim itself and within the ’122 patent. Ex. 1001, 5:5–25.

In light of the disclosed buffering (*id.*), Patent Owner does not point us to any evidence or reasoning as to why an incoming program could not be buffered, with playback then started upon receipt of a second command, and where the entire program would be displayed—even if the “first period of time” did not start until after the transmission of the entire video program to the DVR. That is, Patent Owner does not explain why playback of the entire program could not occur, even if the entire program had not been transmitted (but was being buffered).

Further, regarding dependent claims 6 and 13, our reviewing court guides that “the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314-15 (Fed. Cir. 2005) (en banc) (citation omitted). Thus, under the doctrine of claim differentiation “[i]t is established in patent law that ‘[w]here some claims are broad and others narrow, the narrow claim limitations cannot be read into the broad whether to avoid invalidity or to escape infringement.’” *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1054-55 (Fed. Cir. 1988) (citations omitted); *Accord RF Del., Inc. v. Pac. Keystone Techs., Inc.*, 326 F.3d 1255, 1264 (Fed. Cir. 2003) (“An independent claim usually covers a scope broader than the preferred embodiment, especially if the dependent claims recite the precise scope of the preferred embodiment.”); *Phillips*, 415 F.3d at 1324 (“[A]n independent claim should be given broader scope than a dependent claim.”).

In particular, we note claim 6 of the ’122 patent expressly defines when the first period of time in claim 1 begins and ends:

6. The DVR of claim 1, wherein said first period of time is a period of time that begins when said one of said plurality of video

programs is stored on said memory device and available to be viewed and ends within a predetermined time thereafter, said predetermined time being less than one week.

Claim 13 of the '122 patent further requires storing at least one time of when said second portion of said video program begins and at least one time of when said second portion of said video program ends:

13. The method of claim 11, wherein said step of storing said plurality of video programs on said at least one memory device in said DVR further comprises storing at least one time of when said second portion of said video program begins and at least one time of when said second portion of said video program ends.

Under the doctrine of claim differentiation, “where the limitation that is sought to be ‘read into’ an independent claim already appears in a dependent claim, the doctrine of claim differentiation is at its strongest.”

Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 910 (Fed. Cir. 2004).

Therefore, Patent Owner’s arguments that are based upon dependent claims 6 and 13 do not support the adoption of limiting “a first period of time” to a start after the transmission of the *entire* video program for claim 1. We agree with Petitioner that claims 6 and 13 have additional respective limitations to those in independent claim 1 and 11, so dependent claim 6 does not serve to limit the claim 1 term interpretation, when claim 1 is considered alone. Reply 4. Similarly, dependent claim 13 (which depends upon independent claim 11) does not serve to limit the claim 11 term interpretation, when claim 11 is considered alone.

We turn next to the prosecution history to inform our claim construction of the “first period of time,” as recited in claim 1. Patent Owner cites to the prosecution history (PO Resp. 2–3) found in the parent

application of the '122 patent, now U.S. Patent No. 8,929,710 B2 (*see* related IPR2023-00976):⁸

a digital video recorder ('DVR') that stores a video program and plays at least a portion of the video program back at a later time (e.g., a time more convenient to the user of the DVR, etc.) . . . In a first state, the DVR is configured to play the program as it was originally recorded (e.g., with both the program and auxiliary data). In a second state, the DVR is configured to play the program data without the auxiliary data (or a portion thereof) . . . To this end, the claimed invention provides that if the video program is being watched within a first period of time (e.g., within a day or two of the video program being transmitted to the DVR, etc.), then the video program will be played back in its entirety (e.g., including both program and auxiliary data).

PO Resp. 7–8 (quoting Ex. 2007, 10).

Patent Owner argues that “[t]hese foregoing features are recited in the claimed inventions.” *Id.* at 4. Based on this, Patent Owner contends that a “POSITA would interpret the ‘first period of time’ to start after transmission of the entire ‘video program’ to the DVR.” *Id.* at 6 (citing Ex. 2008 ¶ 47). Patent Owner argues that its “interpretation is also consistent with the prosecution history of the parent case (i.e., U.S. Patent No. 8,929,710).” PO Resp. 7. Patent Owner asserts that the referenced statement in the prosecution history is “clear and unambiguous.” PO Sur-reply 3.

The Federal Circuit has stated that the standard for disavowal of full claim scope through prosecution history disclaimer is “exacting, requiring clear and unequivocal evidence that the claimed invention includes or does not include a particular feature.” *Poly-America, L.P. v. API Industries, Inc.*, 839 F.3d 1131, 1136 (Fed. Cir. 2016) (citations omitted); *see also Grober v.*

⁸ The '122 patent is a “[c]ontinuation of application No. 13/279,943, filed on Oct. 24, 2011, now Pat. No. 8,929,710.” Ex. 1001, code (63).

Mako Prods., Inc., 686 F.3d 1335, 1341 (Fed. Cir. 2012) (“[W]hile the prosecution history can inform whether the inventor limited the claim scope in the course of prosecution, it often produces ambiguities created by ongoing negotiations between the inventor and the PTO. . . . Therefore, the doctrine of prosecution disclaimer only applies to unambiguous disavowals.”).

Here, we do not discern that the prosecution history argued by Patent Owner reflects an unambiguous disavowal. *See* PO Resp. 7–8 (quoting Ex. 2007, 10). Rather, the Applicant’s remarks that the DVR: (1) “stores a video program and plays at least a portion of the video program back at a later time,” so as to (2) “play the program as it was originally recorded” are also consistent with playback of a streaming program that is buffered, which would not require the entire program to have been stored before “a first period of time” starts. *See* Ex. 2007, 10. Additionally, an example is cited in the prosecution history in which a video program is watched within a day or two of the video program being transmitted, but a mere example does not serve as an unambiguous disclaimer of scope. *See id.*

The ’122 patent’s disclosed streaming embodiment (Ex. 1001, 5:5–25), and the doctrine of claim differentiation, support Petitioner’s arguments (Reply 3–4) regarding the “first period of time.” Accordingly, we do not adopt Patent Owner’s proposed construction. We use the plain and ordinary meaning of the term here.

2. a first command

The proposed construction of “a first command,” as recited in claim 1[c], is also in dispute between the parties. Petitioner proposes that the “first command,” as claimed, requires only that the playback state of the DVR be

changed from a first playback state to a second playback state. Reply 5. Patent Owner disagrees and proposes that the first command changes the DVR playback state from a first playback state to a second playback state but never initiates playback of the video program in independent claim 1. PO Resp. 8–9. Patent Owner argues that if the “first command” also initiated playback of the video program, that would render the “second command” redundant and render claim 1 illogical. *Id.*

Patent Owner further contends: “[i]ndependent claim 1 requires two distinct commands (i.e., a first command and a second command). A POSITA would not interpret the ‘first command’ as being capable of initiating playback of the video program. That is because the ‘first command’ alone never initiates playback of the video program in independent claim 1.” PO Resp. 8 (emphasis omitted) (citing Ex. 1001, 12:17–37; Ex. 2008 ¶ 51).

Dr. Freedman testifies in support of Patent Owner:

throughout independent claim 1, the ‘first command’ and the ‘second command’ are used together to control operation of the DVR: the ‘first command’ is used to set the playback state of the DVR, while the ‘second command’ is used to initiate playback of the video program after the playback state of the DVR has been set by the ‘first command.’ Ex. 1001, 12:11–17. In my opinion, if the ‘first command’ also initiated playback of the video program, that would render the ‘second command’ redundant and render claim 1 illogical.

Ex. 2008 ¶ 51 (emphasis omitted).

Petitioner argues that the Board should reject Patent Owner’s improperly narrowed construction. Reply 5 (citing Ex. 1001, 12:17–37).

Patent Owner responds in the Sur-reply:

Petitioner seeks to improperly conflate the meanings of the ‘first command’ and ‘second command’ such that either command can initiate playback to support its defective invalidity grounds. The plain language of the claim requires that the ‘first command changes said DVR from a first playback state to a second playback state’ (EX1001,12:11–13) whereas the ‘second command initiates playback of said video program from said memory device (EX1001,12:13–15). Petitioner’s proposed construction should be rejected because it would render superfluous the explicit differentiation between the ‘first command’ and ‘second command’ recited in the claims.

Sur-reply 4.

Patent Owner thus contends we should adopt a narrowed claim 1 construction by importing an additional *unclaimed* negative limitation (shown in brackets, *infra*) into the first command, as follows:

a first command changes said DVR from a first playback state to a second playback state, [*and does not initiate playback of said one of said plurality of video programs from said memory device*], a second command initiates playback of said one of said plurality of video programs from said memory device.

PO Resp. 8–9; Sur-reply 4.

“In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine*, 469 F.3d at 1014 (citing *Phillips*, 415 F.3d at 1312–17); *see also Tempo Lighting, Inc. v. Tivoli, LLC*, 742 F.3d 973, 977 (Fed. Cir. 2014).

Regarding Patent Owner’s proposed narrowed construction (in which the first command does not initiate playback) the Federal Circuit has found “[i]t is axiomatic that [it] will not narrow a claim term beyond its plain and

ordinary meaning unless there is support for the limitation in the words of the claim, the specification, or the prosecution history.” *Wasica Finance GmbH v. Continental Automotive Sys., Inc.*, 853 F.3d 1272, 1281 (Fed. Cir. 2021).

In reviewing the intrinsic evidence, we turn first to the ’122 patent claim language. Patent Owner’s statement confirms that claim 1 is silent regarding any mention of the first command not initiating playback. Sur-reply 4 (“The plain language of the claim requires that the “first command changes said DVR from a first playback state to a second playback state.”) (citing Ex. 1001, 12:11–13). Patent Owner contends Petitioner is conflating the meaning of “first command” and “second command,” thus rendering these claim terms superfluous or redundant. PO Resp. 17; Sur-reply 4.

However, claim 1[c] recites that a “first command changes said DVR from a first playback state to a second playback state” and a “second command initiates playback of said video program from said memory device.” Even if the “first command” initiates playback, the “first command” would also have to change playback states, so the “first command” and “second command” terms would still have different meanings.

Further, although Patent Owner (PO Resp. 17) and Dr. Freedman (Ex. 2008 ¶ 51) argue that if the “first command” also initiated playback of the video program, the “second command” would be redundant and claim 1 would be illogical, we do not agree. Patent Owner’s arguments are premised on the assumption that the “first command” and “second command” are tied together in claim 1, with the “first command” used to set the playback state and the “second command” used to initiate playback. PO Resp. 17; Sur-

reply 4. Dr. Freedman’s testimony relies on the language of claim 1 only (Ex. 2008 ¶ 51), but there is no indication in claim 1 that the “first command” and “second command” are related or linked. Additionally, even if the “first command” changed the playback state and initiated playback, we discern nothing in the claim precluding that there could be intervening events—like playback being paused—wherein the “second command” would nonetheless be used to initiate playback in accordance with claim limitations 1[d][i]–[iii]. Thus, we are not persuaded by Patent Owner’s arguments.

Turning next to the written description, we note that both Patent Owner and Dr. Freedman cite to column 12 of the ’122 patent as purported written description support of the argued negative limitation that the “first command” of claim 1 does not initiate playback. PO Resp. 8 (citing Ex. 1001, 12:17–37; Ex. 2008 ¶ 51). But column 12 of the ’122 patent is the *claims section* — it merely includes claim 1, and in particular, the literal claim 1[c] language in dispute. Thus, aside from the literal language of claim 1, both Patent Owner and Dr. Freedman cite no written description support for the argued (but unclaimed) negative limitation that the “first command” of claim 1 does not initiate playback. PO Resp. 8–9; Sur-reply 4; Ex. 2008 ¶ 51.

Our reviewing court guides there is adequate written description for a claimed negative limitation when, for example, “the specification describes a reason to exclude the relevant [element].” *Santarus, Inc. v. Par Pharm., Inc.*, 694 F.3d 1344, 1351 (Fed. Cir. 2012); *accord Inphi Corp. v. Netlist, Inc.*, 805 F.3d 1350, 1355 (Fed. Cir. 2015); *accord Nike, Inc. v. Adidas AG*, 812 F.3d 1326, 1348 (Fed. Cir. 2016) (overruled on other grounds by *Aqua*

Prods., Inc. v. Matal, 872 F.3d 1290, 1301 (Fed. Cir. 2017) (en banc)); *see also Novartis Pharm. Corp. v. Accord Healthcare, Inc.*, 38 F.4th 1013, 1016–17 (Fed. Cir. 2022).⁹

A reason to exclude an element could be found in “statements in the specification expressly listing the disadvantages of using” that element. *Santarus*, 694 F.3d at 1351. “Another reason could be that the specification ‘distinguishes among’ the element and alternatives to it.” *Novartis* 38 F.4th at 1016 (citations omitted).

But here, the argued negative limitation (the first command does not initiate playback) is not claimed. And neither Patent Owner nor Dr. Freedman identify any portions of the ’122 patent specification that provide a reason to exclude using the first command to initiate playback. *See* PO Resp. 8–9; Sur-reply 4; Ex. 2008 ¶ 51.¹⁰ The Federal Circuit provides guidance that silence in the patent specification is insufficient to support a negative limitation. *See Seabed Geosolutions (US) Inc. v. Magseis FF LLC*, 8 F.4th 1285, 1288 (Fed. Cir. 2021) (declining to read a negative limitation into the claim as found by the Board, because “silence does not support reading the claims to exclude gimbaled geophones” (citations omitted)), *see also Novartis*, 38 F.4th at 1017 (“The common denominator

⁹ On rehearing, the Federal Circuit held that the specification of the patent at issue did not satisfy the written description requirement for the no-loading-dose negative limitation.

¹⁰ We note Dr. Freedman’s declaration in support of Patent Owner is extrinsic evidence. *See* Ex. 2008 ¶ 51. *See Phillips*, 415 F.3d at 1318 (“[A] court should discount any expert testimony ‘that is clearly at odds with the claim construction mandated by the claims themselves, the written description, and the prosecution history.’” (quoting *Key Pharms. v. Hercon Labs. Corp.*, 161 F.3d 709, 716 (Fed. Cir. 1998))).

of these examples is disclosure of [a reason to exclude] the element. That makes sense because ‘the hallmark of written description is disclosure.’”) (citations omitted).

Similar to our discussion above regarding the term “first time period,” we do not discern that the prosecution history reflects any unambiguous disavowal by the Applicant (now Patent Owner) regarding the first command excluding playback, even if there were written description support for such a negative limitation. PO Resp. 8–9; Sur-reply 4, *see Grober*, 686 F.3d at 1341 (Fed. Cir. 2012) (“[T]he doctrine of prosecution disclaimer only applies to unambiguous disavowals.”).

Therefore, we find the intrinsic evidence (including the claims, written description, and the prosecution history of the ’122 patent) is silent regarding any supporting description of the negative limitation argued by Patent Owner (that playback is not initiated by the first command). The plain language of claim 1[c] merely requires that “a first command changes said DVR from a first playback state to a second playback state.” On this record, we find Patent Owner has not provided “a clear indication in the intrinsic record that the patentee intended the claims to be so limited.” *Liebel-Flarsheim*, 358 F.3d at 913, 915.

We further note that the preamble of claim 1 recites “[a] digital video recorder (DVR) . . . comprising:” *inter alia*, 1[c] “a first command changes said DVR from a first playback state to a second playback state.” Our reviewing court guides that “[t]he transitional term ‘comprising’ . . . is inclusive or open-ended and does not exclude additional, unrecited elements or method steps.” *Georgia-Pacific Corp. v. U.S. Gypsum Co.*, 195 F.3d 1322, 1327 (Fed. Cir. 1999) (citing MPEP § 2111.03 (6th ed. 1997)). “A

drafter uses the term ‘comprising’ to mean ‘I claim at least what follows and potentially more.’” *Vehicular Techs. Corp. v. Titan Wheel Int’l, Inc.*, 212 F.3d 1377, 1383 (Fed. Cir. 2000); *see also Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495, 501 (Fed. Cir. 1997) (“‘Comprising’ is a term of art used in claim language which means that the named elements are essential, but other elements may be added and still form a construct within the scope of the claim.”). Moreover, “claims may embrace ‘different subject matter than is illustrated in the specific embodiments in the specification.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005) (en banc) (citations and internal quotation marks omitted).

These controlling legal authorities are applicable here. Given that the preambles of independent claims 1, 11, and 18 each use the open-ended transitional term “comprising” and following the guidance of *Phillips (id.)*, we find Petitioner’s plain language construction for the claim 1 term “a first command” is the correct claim construction, and we decline Patent Owner’s invitation to read an unclaimed negative limitation into the claim.

Accordingly, we decline to include the negative limitation that the “first command” can never initiate playback of the video program. We use the plain and ordinary meaning of the term: “a first command changes said DVR from a first playback state to a second playback state,” as set forth under claim 1[c].

D. Ground 1 – Asserted Obviousness Over Casagrande, Russ, and Miller

Petitioner contends that claims 1–20 of the ’122 patent are unpatentable under 35 U.S.C. § 103(a) as obvious over Casagrande, Russ, and Miller. Pet. 14–44. Relying upon the declaration of Dr. Jeffay, Petitioner explains how the references allegedly teach or suggest the claim

limitations and provides reasoning for combining the teachings of the references. *Id.* at 13–44 (citing Ex. 1002 ¶¶ 93, 105, 110). Patent Owner provides a substantive response to Petitioner’s arguments under Ground 1 only for independent claims 1, 11, and 18, relying in part of the declaration of Dr. Freedman. PO Resp. 12–29 (citing Ex. 2008). Patent Owner does not advance separate, substantive arguments for dependent claims 2–10, 12–17, 19, and 20 under Ground 1. PO Resp. 28–29.

3. Summary of Casagrande (Ex. 1006)

Casagrande is titled “Methods and Apparatus for Filtering Content from a Presentation Stream Using Signature Data,” and relates to identifying locations within a presentation stream of segment boundaries, “such as segments of a show and interstitials (e.g., commercials) of the show,” in order to filter segments during presentation. Ex. 1006, codes (54), (57). More specifically, Casagrande involves using identified portions of content in a presentation for: (1) “skipping segments of content during presentation,” (2) the “insertion of supplemental or substitute content within various locations of the presentation stream,” (3) the “selective presentation of specific segments of the presentation stream,” and (4) the “presentation of segments of content in non-sequential order and the like.” *Id.* at 2:41–47. Casagrande teaches the insertion or replacement of video content. *Id.* at 2:41–47. Casagrande describes “audio and video data that may be transmitted to, and received by, an electronic device, such as a terrestrial (‘over the-air’) television receiver, a cable television receiver, [and] a satellite television receiver.” *Id.* at 4:41–45.

4. Summary of Russ (Ex. 1008)

Russ is titled “Networked Multi-Room System Ad Insertion,” and relates to inserting “[r]eplacement material, such as new commercials,” in a presentation based on ad-insertion tags corresponding to commercial breaks in the presentation. Ex. 1008, codes (54), (57). Russ describes that a user’s control of a viewing experience may be enhanced through trick mode functionality “(e.g., pause, fast forward, rewind, skip ahead, or skip back functionality).” *Id.* ¶ 32. In one embodiment, however, “trick play functionality, such as fast forward, would not work for certain commercials as specified, for example, by the local cable operator or the presentation programmer.” *Id.* ¶ 33. Further, an alternative commercial may be inserted into the presentation upon use of a fast forward function to replace an original commercial, and “added or replaced material, such as new commercials, would also be unskippable.” *Id.* ¶¶ 32–33.

5. Summary of Miller (Ex. 1009)

Miller is titled “Concurrent Program Content Processing Apparatus, Systems, and Methods.” Ex. 1009, code (54). Miller relates to “systems and methods for concurrently presenting and recording program content received via a single carrier signal.” *Id.* ¶ 1. In particular, a system may include a receiving device with a tuner that can receive a multiplexed signal including multiple program content portions, and may also include a program content transporter for concurrently presenting a first program on a display device and recording a second program. *Id.* ¶ 2. Miller teaches a “receiving device 118 [that] may include at least two tuners” (*id.* ¶ 31), and “a receiving device 118 having a single tuner.” *Id.* ¶ 32. Miller also teaches the storage and

selected viewing of video content using a DVR system. *Id.* ¶¶ 15–16, 35–37.

6. Analysis of Ground 1

a. Independent claim 1

Petitioner relies on Casagrande for teaching a set top box with digital video recorder (DVR) functionality that enables skipping of interstitials (e.g., commercials), in addition to teaching a storage unit 1516 (Fig. 15) and a receiving device 110 (Fig. 1), and first (802), second (804), and third (806) segments (or portions) of a video program in which the second portion 804 is the interstitial 804, as depicted in Figure 8. Pet. 14–33 (citing Ex. 1006). Petitioner relies on Russ for additional details regarding the implementation of “time-limited restrictions on trick-play/commercial skipping” on DVRs. Pet. 13 (citing Ex. 1002 ¶ 93). Petitioner relies on Miller for additional details “surrounding the processing of signals delivered to a DVR over a satellite network.” Pet. 14 (citing Ex. 1002 ¶ 105).

In the Response, Patent Owner substantively addresses only claim 1 limitations 1[a][i], 1[b], 1[c], 1[d][i], 1[d][ii], and 1[d][iii] under Ground 1 over Casagrande, Russ, and Miller. PO Resp. 12–28.

1. Preamble 1 [Pre]

The preamble of claim 1 recites: “A digital video recorder (DVR) for time shifting at least one video program, said video program being transmitted over a data distribution system, comprising.” Ex. 1001, 11:60–62.

To the extent that the preamble may be limiting, Petitioner persuasively shows that Casagrande teaches the preamble of claim 1,

because Casagrande discloses a DVR to “allow viewers to record video in a digital format to a disk drive.” Pet. 15 (quoting Ex. 1006, 1:17–22).

Petitioner notes that Casagrande describes that DVRs are often incorporated in set-top boxes (STB) for “satellite and cable television services” and that “[a] television program stored on a STB allows a viewer to perform time shifting functions, and may additionally allow a viewer to skip over commercial breaks.” Pet. 15 (quoting Ex. 1006, 1:21–26).

We credit Dr. Jeffay’s testimony that “DVRs with time-shifting capabilities were well-known in the art as of the priority date of the ’122 Patent,” and such DVRs “included functions [(i.e., commands)] such as pausing, fast forwarding, rewinding, skipping ahead, skipping back, and buffering.” Ex. 1002 ¶ 94. Regarding the claim 1 preamble recitation “said video program being transmitted over a data distribution system,” we credit Dr. Jeffay’s testimony that Casagrande explains “the A/V stream may be supplied by any source, such as an over-the-air broadcast, a satellite or cable television distribution system.” Ex. 1002 ¶ 95 (citing Ex. 1006, 4:36–40).

Patent Owner acknowledged in the Preliminary Response that “*Casagrande* is generally directed to a set top box with digital video recorder (DVR) functionality.” Prelim. Resp. 9. However, Patent Owner does not specifically address the preamble of claim 1 in the Response, or in the Sur-reply. *See generally* PO Resp.; Sur-reply.

Based on the entire record, we find Petitioner shows that at least Casagrande teaches or suggests the preamble of claim 1.¹¹

¹¹ We need not determine whether the preamble of claim 1 is limiting because we find Petitioner has shown that Casagrande teaches the preamble.

2. *Limitation 1[a][i]*

Limitation 1[a][i] of claim 1 recites: “a tuner for receiving a plurality of video programs, wherein (i) said plurality of video programs are transmitted at the same time on a single channel within said data distribution system.” Ex. 1001, 11:63–66.

Even though Casagrande does not use the term “tuner,” Petitioner argues that a POSA would have understood that Casagrande’s set-top box (STB) would have used a “tuner to receive the data from a satellite transponder via the antenna.” Pet. 16 (citing Ex. 1002 ¶ 99). Petitioner argues that “a POSA would have been motivated and found it obvious to implement Casagrande’s STB with a tuner to isolate and extract the desired programming from the received signal.” Pet. 16–17 (citing Ex. 1002 ¶ 101). We credit Dr. Jeffay’s testimony that a POSA would have understood that Casagrande’s DVR includes “one or more tuners for receiving a plurality of video segments or would have found it an obvious implementation choice.” Ex. 1002 ¶ 101.

Turning to Russ, Petitioner notes that “Russ explains that ‘primary device 140’ is a STB that ‘includes a processor, a tuner system,’ ‘which may be a simplified processor and only one tuner, may be included to extract channels from the received downstream broadband signals.’” Pet. 17 (citing Ex. 1008 ¶¶ 20, 33) (emphasis omitted).

Turning to Miller, Petitioner notes that Miller discloses “a system that concurrently processes multiple distinct programs communicated via a single carrier signal.” Pet. 17 (quoting Ex. 1009 ¶ 2). Miller “includes a receiving device comprising *a tuner operable to receive a multiplexed signal* via a satellite network that communicates digital video programming, the

multiplexed signal comprising a plurality of program content portions, each program content portion corresponding to one of a plurality of programs, and a program content transporter that is communicatively coupled to the *tuner*.” *Id.* (quoting Ex. 1009 ¶ 2) (emphasis added).

Patent Owner responds: “the Petition fails to identify in either reference [(Casagrande or Russ)] any disclosure of a ‘tuner’ that receives a ‘plurality of video programs’ that are ‘transmitted at the same time’—mere generic reference to ‘multiple tuners’ or extracting and decoding signals are not sufficient.” PO Resp. 12. Turning to Miller, Patent Owner argues that “*Miller* discloses recording only one program, not a plurality (i.e., more than one) of video programs as is required by this limitation.” *Id.* at 13 (citing Ex. 1009, Fig. 5 (the “first program” is presented while the “second program” is recorded)). Patent Owner also argues that Petitioner asserts that it would have been obvious to modify Casagrande’s tuner for the teaching of this limitation, but Petitioner “only cites to disclosures in Miller that allegedly disclose this limitation, with the benefit of impermissible hindsight from claim 1,” and the citations to Dr. Jeffay’s declaration do not cure the deficiencies of the Petition. PO Resp. 13. Patent Owner also contends that the Declaration of Dr. Jeffay should not be afforded weight because it only restates Petitioner’s arguments without providing additional supporting evidence or reasoning. *Id.*

Petitioner replies that “PO’s Response does not address Casagrande’s receiving device,¹² Russ’s set-top box, and Miller’s “receiving device *comprising a tuner*,” which disclose, or render obvious, at least one tuner consistent with the tuner recited in claim 1.” Reply 6 (citing Ex. 1009 ¶ 2; Ex. 1008 ¶¶ 20, 33; Ex. 1006, 17:62–18:2.).

Petitioner refers back to the Petition in the Reply: “[T]he Petition explains that ‘Miller [provides] ‘various techniques to facilitate the concurrent utilization of program content communicated via a single carrier signal’ such as ‘receiving via a single content stream selector a multiplexed signal containing multiple distinct programs.’” Reply 7 (citing Pet. 18 (quoting Ex. 1009 ¶ 32, citing Ex. 1002 ¶ 104)). Petitioner thus relies upon the collective teachings and suggestions of Casagrande, Russ, and Miller for teaching the claimed “tuner” limitation.

In the Sur-reply, Patent Owner notes that “[t]he Reply focuses on the tuner disclosed in *Miller*.” Sur-reply 6 (citing Reply 7). Patent Owner contends: “The sole disclosure in *Miller* is of a tuner that can receive multiple programs ‘from a single carrier signal.’” Sur-reply 6 (citing Ex. 1009 ¶ 32). But Patent Owner contends “that is not sufficient.” Sur-reply 6. Patent Owner argues: “The claims require that the ‘plurality of video programs are transmitted at the same time on a single channel.’” *Id.* at 6–7 (emphasis omitted).

¹² Although Casagrande teaches a receiving device 1510 (as depicted in Fig. 15) and does not use the term “tuner,” we note there is no requirement in an obviousness analysis for the prior art to “contain a description of the subject matter of the appealed claim in *ipsissimis verbis*.” *In re May*, 574 F.2d 1082, 1090 (CCPA 1978).

In support, Patent Owner relies upon the deposition testimony of Dr. Freedman (Ex. 1020) that: “The term ‘single channel’ in the claims ‘means the selection of a specific frequency from the carrier signal and a specific element of the multi-plex constellation of signals.’” Sur-reply 7 (citing Ex. 1020, 83:17–23). Patent Owner argues: “By contrast, *Miller* merely discloses receiving multiple programs from a single carrier signal . . . which does not mean that the programs are on the same channel as required by the claims.” Sur-reply 7 (citing Ex. 1009 ¶ 32).

We find that Petitioner demonstrates the teaching of this limitation based on the combination of Casagrande, Russ, and Miller. In particular, Miller discloses “a system that *concurrently processes multiple distinct programs communicated via a single carrier signal*” and explains that the

system includes a receiving device comprising *a tuner operable to receive a multiplexed signal via a satellite network* that communicates digital video programming, *the multiplexed signal comprising a plurality of program content portions, each program content portion corresponding to one of a plurality of programs*, and a program content transporter that is communicatively coupled to the tuner.

Ex. 1009 ¶ 2 (emphasis added). Dr. Jeffay provides testimony that Miller provides “various techniques to facilitate the concurrent utilization of program content communicated via a single carrier signal” such as “receiving via a single content stream selector a multiplexed signal containing multiple distinct program,” and a person of ordinary skill in the art would have added the multiplexing feature of Miller to Casagrande/Russ. Ex. 1002 ¶ 104. Dr. Jeffay therefore testifies that a person of skill would have found it obvious to have implemented Casagrande’s A/V stream as multiple video programs communicated at the same time on a single

channel. *Id.* That is, Petitioner is using Miller’s teachings in Casagrande’s tuner to be capable of tuning to a single channel to receive a plurality of multiplexed video programs. *See* Pet. 20.

Dr. Jeffay provides testimony in support of motivation to use Miller’s tuners in the combined system of Casagrande and Russ. Ex. 1002 ¶¶ 103–105. Dr. Jeffay points to Miller’s disclosures that having multiple tuners, each capable of accessing a single program on a single program, is “subject to several disadvantages, such as higher manufacturing costs for receiving devices 118, increased power consumption by receiving devices 118, and the like.” Ex. 1002 ¶ 104 (citing Ex. 1009 ¶ 31). Dr. Jeffay, and Miller’s disclosures, support that in order to avoid these disadvantages Miller provides techniques to “facilitate the concurrent utilization of program content” such as “receiving via a single content stream selector a multiplexed signal containing multiple distinct programs.” Ex. 1002 ¶ 104; Ex. 1009 ¶ 32. Dr. Jeffay further testifies that “adding the multiplexing feature of Miller to the combined system of Casagrande and Russ would have avoided” the disadvantages discussed in Miller. Ex. 1002 ¶ 104. Dr. Jeffay testifies that a satellite set-top box has a finite number of tuners and “it would have been advantageous to deliver multiple video programs at the same time using a single tuner.” *Id.*

Dr. Jeffay also testifies that each of the references discloses the use of satellite systems for video content delivery, referring to Casagrande’s disclosure of the transmittal of an A/V stream to a satellite television receiver. Ex. 1002 ¶ 105 (citing Ex. 1006, 4:41–46). Dr. Jeffay also points to Miller’s disclosure of a tuner operable to receive a multiplexed signal via a satellite network. Ex. 1005 ¶ 105 (citing Ex. 1009 ¶ 2). Dr. Jeffay testifies

that each of these references describes a system for receiving content from a satellite system via tuner, and a person of ordinary skill in the art would have a reasonable expectation of success in the combination. Ex. 1005 ¶¶ 105–106.

In view of the sufficiency of the disclosures of the prior art and the supporting testimony of Dr. Jeffay, which we find persuasive because it is supported by the disclosures of the prior art, we find that Petitioner demonstrates the teaching of this limitation by the combination of the prior art, as well as the rationale to combine the prior art and the reasonable expectation of success of the combination.

We do not find that Patent Owner’s arguments undermine Petitioner’s showing that the prior art teaches this limitation with a rationale to combine the references with the reasonable expectation of success of the combination. Turning to Patent Owner’s arguments, we do not agree with Patent Owner that Petitioner “only cites to disclosures in Miller that allegedly disclose this limitation, with the benefit of impermissible hindsight from claim 1” because, as discussed above, Petitioner relies on the art in combination.

Further, although Patent Owner argues that Miller only discloses recording one video program (PO Resp. 13; Sur-reply 6–7), we disagree, because Miller discloses receiving a “multiplexed signal containing multiple distinct programs.” Ex. 1009 ¶ 32.

We also do not agree with Patent Owner’s contention that the Jeffay Declaration should not be afforded weight because it only restates Petitioner’s arguments without providing additional supporting evidence or reasoning; as discussed above Dr. Jeffay provides additional discussion of

the issues related to this limitation and his analysis in his declaration, as well as identifying prior art disclosures in support.

Patent Owner also asserts that the Petition fails to identify disclosures in Casagrande and Russ of a tuner that receives a plurality of programs that are transmitted at the same time. PO Rep. 12. As discussed above, Petitioner's contentions are that this limitation is taught by the combination of Casagrande, Russ, and Miller, and Patent Owner impermissibly argues the references separately. As to the issue of whether the plurality of the programs are transmitted at the same time, Dr. Jeffay (Ex. 1002 ¶ 102) refers to Miller's statement that it is directed to "a system that *concurrently* processes multiple distinct programs communicated via a single carrier signal" (Ex. 1009 ¶ 2) (emphasis added). Thus, we are not persuaded by Patent Owner's arguments on this issue.

In the Sur-reply, Patent Owner argues that "[t]he Reply focuses on the tuner disclosed in *Miller*" but "that is not sufficient." Sur-reply 6. Patent Owner further argues: "The claims require that the 'plurality of video programs are transmitted at the same time on a single channel.'" *Id.* at 6–7 (emphasis omitted). For support of this allegation, Patent Owner relies upon the deposition testimony of Dr. Freedman that: "The term 'single channel' in the claims 'means the selection of a specific frequency from the carrier signal and a specific element of the multi-plex constellation of signals.'" Sur-reply 7; Ex. 1020, 83:17–23. Patent Owner adds that "[b]y contrast, *Miller* merely discloses receiving multiple programs from a single carrier signal . . . which does not mean that the programs are on the same channel as required by the claims." Sur-reply 7 (citing Ex. 1009 ¶ 32).

These arguments, and this cited testimony, are contrary to Miller's teachings. In particular, Dr. Freedman's testimony assumes that Miller's carrier signal comprises multiple specific frequencies that are selectable by a single tuner for receiving the multiple programs. *See* Ex. 1020, 83:17–23. Miller, however, teaches that the carrier signal comprises a specific frequency that can be selected for receiving the multiplexed programs. *See* Ex. 1009 ¶¶ 31–32 (“receiving via a single content stream selector a multiplexed signal containing multiple distinct programs”), 35, 39 (“content stream selector 306 includes a tuner that is configured to tune to a particular frequency that is used to carry programming”), 41 (“if the content stream selector 306 includes only a single tuner, it may only be capable of continuously receiving programming from a single carrier signal during a given time period, such that the program content transporter 200 may only be capable of concurrently processing programming carried on that carrier signal during the time period”), 43, Fig. 3 (showing multiple carrier signals each carrying portions of multiple programs). In other words, Miller uses the term carrier signal as corresponding to a single channel, rather than multiple channels as Patent Owner alleges. *Id.*

In addition, Dr. Freedman's testimony that “single channel” also means the selection of “a specific element of the multi-plex constellation of signals” is ambiguous, conclusory, and untethered to the intrinsic evidence and claim language. Ex. 1020, 83:17–23. Again, as we discuss above, Miller teaches a single channel via its teachings of having a single carrier signal.

Based upon the entire record, we find Petitioner shows that the combination of Casagrande, Russ, and Miller collectively teach or suggest

claim limitation 1[a][i] with a rationale to combine the references.

3. *Limitation 1[a][ii]*

Limitation 1[a][ii] of claim 1 recites: “(ii) said tuner can be tuned to said single channel to receive said plurality of video programs.” Ex. 1001, 11:66–12:1.

Petitioner persuasively argues that “Miller renders obvious element 1[a][ii] by teaching ‘a system that concurrently processes multiple distinct programs communicated via a single carrier signal’ including ‘a tuner operable to receive a multiplexed signal via a satellite network . . . and a program content transporter that is communicatively coupled to the tuner.’” Pet. 20 (citing Ex. 1009 ¶ 2).

Petitioner further persuasively contends that “[a] POSA would have been motivated to have Casagrande’s tuner be capable of tuning to a single channel to receive a plurality of video programs because, as Miller teaches, this provides the benefits of saving resources, improving operation efficiencies of satellite-based networks, and to provide a STB capable of decoding existing multiplexed satellite signals.” Pet. 20 (citing 1009 ¶ 2; Ex. 1002 ¶ 110).

Patent Owner does not separately and substantively argue limitation 1[a][ii] of claim 1, aside from the similar arguments previously advanced for limitation 1[a][i], discussed above. *See generally* PO Resp., Sur-reply.

Based upon our review of Miller’s description of “a tuner operable to receive a multiplexed signal via a satellite network” at paragraph 2, and in light of our analysis above for limitation 1[a][i], we find Petitioner has shown the collective teachings and suggestions of Casagrande, Russ, and Miller render obvious limitation 1[a][ii] under Ground 1.

4. *Limitation 1[a][iii]*

Limitation 1[a][iii] of claim 1 recites: “(iii) at least one of said plurality of video programs includes at least first, second and third portions, wherein said second portion as transmitted is configured to follow said first portion, and said third portion as transmitted is configured to follow said second portion.” Ex. 1001, 12:1–6.

Regarding the respective first, second, and third portions of the video program, Petitioner initially argues that Figures 2 and 8 of Casagrande show contiguous segments corresponding to the claimed “first, second, and third portions.” Pet. 22 (citing Ex. 1002 ¶ 114).

Petitioner argues that “Casagrande explains ‘[t]he receiving device 710A is operable to receive a first A/V stream 704’ that ‘includ[es] at least one segment of a show, [and] at least one interstitial of the show.’” Pet. 24 (citing Ex. 1006, 15:21–24, 21:28–32). We note Casagrande describes one embodiment of an “interstitial” as being a “commercial” i.e., an advertisement. Ex. 1006, 2:40–41.

Patent Owner does not separately and substantively argue limitation 1[a][iii] of claim 1, aside from the similar arguments previously advanced for limitation 1[a][i], as discussed above. *See generally* PO Resp., Sur-reply. Based upon our review of the record, we find Petitioner has persuasively shown that Casagrande’s first (802), second (804), and third (806) segments (or portions) of a video program, in which the second portion is the interstitial 804 (i.e., commercial), teach or suggest limitation 1[a][iii], as depicted in Figure 8. Pet. 22 (citing Ex. 1006, Fig. 8; Ex. 1002 ¶ 114).

Accordingly, we find Petitioner has shown the collective teachings and suggestions of Casagrande, Russ, and Miller render obvious limitation 1[a][iii] under Ground 1.

5. *Limitation 1[b]*

Limitation 1[b] of claim 1 recites: “a memory device for storing said plurality of video programs, allowing said one of said plurality of video programs to be played back at a later time.” Ex. 1001, 12:7–9.

Petitioner argues that Casagrande’s Figure 15 includes a storage unit (i.e., a memory device), the first A/V stream 1504, and the supplemental content 1506. Pet. 22 (citing Ex. 1006, 18:18–25, Fig. 15). Petitioner notes that “Casagrande explains that ‘the receiving device 1510, by way of the control logic 1520,’ stores ‘the A/V stream 1504 in the storage unit 1516.’” *Id.* (citing Ex. 1006, 18:64–67).

Patent Owner contends that Miller discloses recording only one program, not a plurality of (i.e., two or more) video programs. PO Resp. 14 (citing Ex. 1009 at Fig. 5 (the “first program” is presented while the “second program” is recorded)).

Petitioner relies, however, upon the combination of Casagrande, Russ, and Miller in its obviousness ground and relies specifically on Casagrande for the teaching of this claim limitation. We credit Dr. Jeffay’s testimony that a person of ordinary skill in the art “would have understood that a storage unit in the context of the Casagrande patent includes a memory device for storing a plurality of video programs” (Ex. 1002 ¶ 117), because Casagrande is directed to the use of DVRs and storage for content therein, which would include storage for more than one video program (*see* Ex. 1006, code (57)).

Patent Owner further contends “[t]he Petition fails to allege that it would have been obvious to modify *Casagrande* with *Miller* to render obvious this limitation, so the combination of *Casagrande*, *Russ*, and *Miller* does not teach or suggest this limitation.” PO Resp. 14 (citing Pet. 22–23).

However, as noted above, Petitioner relies in part upon the declaration of Dr. Jeffay in explaining how the references teach or suggest the claim limitations and provides reasoning for combining the teachings of the references, which we find sufficient as rationale to combine the references. Pet. 13–14 (citing Ex. 1002 ¶¶ 93, 104–106, 110).

Patent Owner has not rebutted Dr. Jeffay’s testimony regarding motivation that explains how “a POSA would generally have been motivated to combine the teachings of *Casagrande*, *Miller*, and *Russ* for several reasons with a reasonable expectation of success.” Ex. 1002 ¶ 93.

Based upon our review of *Casagrande*’s storage unit 1516, as depicted in Figure 15, we find Petitioner has shown that the collective teachings and suggestions of *Casagrande*, *Russ*, and *Miller* render obvious limitation 1[b].

6. *Limitation 1[c]*

Limitation 1[c] of claim 1 recites: “a controller configured to receive commands from a user of said DVR, wherein a first command changes said DVR from a first playback state to a second playback state, a second command initiates playback of said one of said plurality of video programs from said memory device, and a third command instructs said DVR to receive and store said plurality of video programs.” Ex. 1001, 12:10–16.

Regarding the claimed “first command,” Petitioner argues that “*Casagrande* teaches that ‘a user may select by way of the user input 1523 whether the first A/V stream 1504 or the second A/V stream 1512 is

outputted to the display device 1514,’ corresponding to the claimed first and second playback states.” Pet. 24 (quoting Ex. 1006, 19:63–66). Given this description (*id.*), Petitioner argues that “Casagrande teaches a user selecting between a first playback state (i.e., playback of the entire first A/V stream) and a second playback state (i.e., playback of the second A/V stream, excluding commercials).” Pet. 25.

Patent Owner responds: “The claimed ‘first command,’ which places the DVR in a ‘first playback state’ or a ‘second playback state,’ is associated with time-based limitations on navigation through a program, as discussed in further detail below for limitation 1[d].” PO Resp. 15.

Petitioner replies: “Even if the claimed ‘first command’ must not initiate playback, Casagrande teaches changing the DVR’s playback state to a second playback state because it teaches that the user “may select . . . whether the first A/V stream . . . or the second A/V stream . . . is outputted to the display device.” Reply 8 (citing Ex. 1006, 19:63-66). Petitioner further argues: “Notably, this selection may be overwritten by the system, so this user selection does not guarantee that playback of the requested stream is initiated.” Reply 8 (citing Ex. 1006, 19:64–10:2; 19:15–19).

In the Sur-reply, Patent Owner contends: “Petitioner’s second citation [to Casagrande] (19:15-19) reinforces the fact that Petitioner’s ‘first command’ initiates playback because it ‘command[s] the receiving device 1510 to output the first A/V stream 1504 to the display device 1514 for presentation.’” Sur-reply 9 (quoting Ex. 1006, 19:15–19) (emphasis omitted).

Responsive to Patent Owner’s first argument (PO Resp. 15), we find limitation 1[c] is silent regarding any mention of a first or second period of

time, or any other temporal limitations. Moreover, time-based limitations 1[d][i], 1[d][ii], and 1[d][iii] are likewise silent regarding any mention of the claimed “first command,” and instead refer to the second command.

Therefore, we find Patent Owner’s arguments to the contrary are unsupported by the plain language of claim 1. *See* PO Resp. 15.

Moreover, given the transitional term “comprising” recited in the preamble of claim 1, and our claim construction *supra* for the “first command,” we are not persuaded by Patent Owner’s argument that Casagrande does not teach the “first command” because Petitioner’s mapping to Casagrande (19:15–19) also initiates playback. *See* Sur-reply 9 (citing Ex. 1006, 19:15–19).

As Petitioner persuasively shows, Casagrande teaches that “a user may *select* by way of the *user input 1523* whether the first A/V stream 1504 or the second A/V stream 1512 is outputted to the display device 1514,” corresponding to the selection by the user of the second playback state, which we find is sufficient to teach or suggest the claimed change of the DVR from a first playback state to a second playback state, as performed by the “first command” of claim 1[c]. Pet. 24 (citing Ex. 1006, 19:63–66; Ex. 1002 ¶ 123) (emphasis added).

For at least the aforementioned reasons, we find Petitioner has shown that the collective teachings and suggestions of Casagrande, Russ, and Miller render the claim 1[c] “first command” obvious under Ground 1.

Regarding the claim 1[c] “second command,” Petitioner notes that “Casagrande explains that ‘a user may be presented with a menu of available segments of the television program, and may select one or more of the available segments for presentation.’” Pet. 25 (quoting Ex. 1006, 4:1–4).

Petitioner further notes that Casagrande explains: “[b]ased upon user selection of particular segments from the selection menu, the receiving device responsively outputs the selected segments.” Pet. 25 (quoting Ex. 1006, 4:4–8).

Patent Owner responds “it is the [claimed] ‘second command’ that initiates playback of a particular program or stream.” PO Resp. 15 (citing Ex. 1001, 12:10–16; Ex. 2008 ¶ 63).

In reply, Petitioner contends that even under

PO’s narrow view of the claims, the user interaction described in Casagrande renders obvious the claims because it would be obvious to allow the user to first designate a desired program, or program variant to watch (i.e., to select whether a complete first stream, or a shortened second stream is desired, corresponding to the first command) followed by a second command to indicate that selection is complete and playback should begin.

Reply 9 (citing Ex. 1014 ¶ 9).

In the Sur-reply, Patent Owner disagrees:

The fact remains that *Casagrande* does nothing more than allow the user to select to play one of two audio/visual streams: (1) a “first audio/visual stream” that includes “segments” and “interstitials” (e.g., commercials) or (2) a “second audio visual stream” that the DVR generates by removing the “interstitials” from the “first audio/visual stream” and, in some cases, replacing the removed “interstitials” with “substitute content.” EX1006, 2:23–47, 8:63–9:5, 13:13–31, 19:63–66. This is distinguishable from the claimed invention where a “second command” initiates playback of a *single* video program and a controller determines *automatically* which portions of the video program are provided to the display device based (in part) on a selected playback state of the DVR—a state that is selected via a “first command”.

Sur-Reply 9.

We note the argued *automatic* function of the 1[c] “controller” is not claimed. *Id.* Moreover, “it is well settled that it is not ‘invention’ to broadly provide a mechanical or automatic means to replace manual activity which has accomplished the same result.” *In re Venner*, 262 F.2d 91, 95 (CCPA 1958) (citation omitted).

Given the plain language of claim 1, we agree with Patent Owner (Sur-Reply 9) that claim 1[c] requires a “second command [that] initiates playback.” However, the claim does not recite that *only* the second command initiates playback, so as to preclude the “first command” from initiating playback under the claim limitations, as discussed *supra* in our claim construction section.

Petitioner has mapped the claimed “second command” that initiates playback to Casagrande. Pet. 25 (quoting Ex. 1006, 4:1–4 (“In at least one embodiment, a user may be presented with a menu of available segments of the television program, and may select one or more of the available segments for presentation.”)). In reviewing the record, we find Patent Owner has not substantively addressed Petitioner’s mapping of the claimed “second command” to this disclosure of Casagrande.

On this record, we find Petitioner has shown that the collective teachings and suggestions of Casagrande, Russ, and Miller render the claim 1[c] “second command” obvious under Ground 1.

Regarding the claimed 1[c] “third command,” Petitioner notes that “Casagrande’s discloses ‘user input 1523 directing the operation of the receiving device 1510’” (Pet. 25 (quoting Ex. 1006, 18:54–60)) and “the operations including ‘receiving device 1510, by way of the control logic 1520, [] configured to receive the first A/V stream 1504 . . . and store the

A/V stream 1504 in the storage unit 1516.” Pet. 25 (quoting Ex. 1006, 18:64–67).

Patent Owner responds that the claimed “‘third command instructs said DVR to receive and store said plurality of video programs,’ not only a single program.” PO Resp. 16 (underline omitted).

In Reply, we note Petitioner does not further address the third command with respect to Ground 1 over Casagrande, Russ, and Miller. Petitioner only addresses the third command with respect to Ground 2 over Dow (anticipation). Reply 20.

In the Sur-reply, Patent Owner argues that “the claimed invention does not merely requir[e] storing video programs but a single ‘third command [that] instructs said DVR to receive and store the plurality of video programs.’” Sur-reply 10–11 (citing Ex. 1001, 12:15–17). Patent Owner contends “[i]n other words, a *single* command that results in the reception and storage of a *plurality* of video programs. Not only is this feature not disclosed in *Casagrande*, but it is not disclosed in *Russ* or *Miller*.” Sur-reply 11.

Regarding Patent Owner’s arguments pertaining to the 1[c] third command, as discussed above (for limitation 1[b]), we find Petitioner has persuasively shown that Casagrande teaches or suggests the use of a memory device (Fig 15, storage unit 1516) for storing a plurality of video programs because the language of claim 1[c] does not place any limits regarding *how* the plurality of video programs are stored. For example, plural video programs could be stored in respective separate portions of storage in any order, or they could be stored in sequential order in a single portion of storage (e.g., memory or disk). See Pet. 23. The record reflects that

Petitioner relies only upon Casagrande for teaching the storage of a plurality of video programs under limitations 1[b] and 1[c]. *See id.* at 22–23.

Patent Owner further argues:

Miller actually teaches away from this feature by requiring *a plurality of user input* in order to receive and record a plurality of programs (e.g., one for each program to view or record). *See* EX1009, ¶[0054] (“[A] user may direct, such as by selecting the appropriate input elements [plural] of an interface to the receiving device 118, the concurrently presenting and recording of two distinct programs.”); *see also id.*, ¶[0037] (describing how programs that are not selected are ignored) and ¶[0042] (describing different scenarios where different programs are selected for viewing or recording). As such, *Miller* does not make up for this deficiency in *Casagrande* with respect to claim limitations 1[c] *et al.*

Sur-reply 11.

But Petitioner does not rely on Miller for the teaching of storage of a plurality of video programs under limitations 1[b] and 1[c] under Ground 1 over Casagrande, Russ, and Miller. Moreover, the “mere disclosure of alternative designs does not teach away.” *In re Mouttet*, 686 F.3d 1322, 1334 (Fed. Cir. 2012) (quoting *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004)). A reference does not teach away if it merely expresses a general preference for an alternative invention but does not “criticize, discredit, or otherwise discourage” investigation into the invention claimed. *Fulton*, 391 F.3d at 1201. When combining references to establish obviousness, the appropriate consideration is whether the proposed combination would work for its intended purpose, not whether the proposed combination is inconsistent with the stated goal of one of the references (here, Miller), as Patent Owner argues. Sur-reply 11. *See DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1326 (Fed. Cir. 2009).

Here, Patent Owner provides no support for its allegation of “teaching away” by showing how Miller criticizes, discredits, or otherwise discourages investigation into the invention claimed. *Fulton*, 391 F.3d at 1201. For at least the aforementioned reasons, we find Petitioner has shown that the collective teachings and suggestions of Casagrande, Russ, and Miller render the claim 1[c] “third command” obvious under Ground 1.

7. *Limitation 1[d][i]*

Limitation 1[d][i] of claim 1 recites: “at least one processor configured to (i) provide said one of said plurality of video programs in its entirety to a display device in response to receiving said second command during a first period of time.” Ex. 1001, 12:17–20.

Petitioner argues that “Casagrande teaches the use of ‘control logic 1520 [that] includes a processor,’ for ‘execution of software configured to perform the various control functions described herein.’” Pet. 25–26 (quoting Ex. 1006, 18:46–49; citing Ex. 1002 ¶ 128) (emphasis omitted).

In support, Petitioner contends the control logic “‘control[s] the operation of’ the ‘communication interface 1502, the storage unit 1516, and the A/V interface 1518.’” Pet. 26 (quoting Ex. 1006, 18:42–45; citing Ex. 1002 ¶ 129). Petitioner notes that Casagrande further explains that “A/V interface 1518 . . . is configured to output A/V streams from the receiving device 1510 to a display device 1514 for presentation to a user.” Pet. 26 (quoting Ex. 1006, 18:27–29; citing Ex. 1002 ¶ 129). Petitioner thus argues that a “POSA would have understood that ‘control logic’ is ‘configured’ to control ‘A/V interface 1518’ to ‘output A/V streams from the receiving device 1510 to the display device.’” Pet. 26 (citing Ex. 1002 ¶ 129).

Petitioner asserts that a person of ordinary skill in the art “would have understood that Casagrande presents the entirety of the A/V presentation (e.g., the first A/V stream) even when the user requests the shortened version without commercials (the second A/V stream).” Pet. 26 (citing Ex. 1002 ¶ 130). Petitioner also points to Casagrande’s disclosure that “commercials within a television program may be associated with restrictions against fast forwarding or skipping, and a recording *device may automatically present the commercial segments regardless of the receipt of user input requesting non-presentation of the segments.*” *Id.* (citing Ex. 1006, 4:23–27; Ex. 1002 ¶ 130).

Dr. Jeffay testifies that a person of ordinary skill in the art “would have understood that processing a user request for changing between the first playback state (the first A/V stream) and the second playback state (the second A/V stream) will still lead to the depiction of the first A/V stream (*i.e.*, the stream in its entirety) on the display device during a first period of time where the content provider has placed restrictions on removing interstitial content.” Ex. 1002 ¶ 131. Thus, according to Petitioner, “Casagrande teaches playback of the entire first A/V stream during a first period of time (*i.e.*, while restrictions are active), ‘regardless of’ whether the first or second playback state had been requested by the user.” Pet. 26 (citing Ex. 1002 ¶ 111). Petitioner also argues that Casagrande “when combined with Russ,” teaches that the “restriction on skipping may be lifted after a time period.” Pet. 27 (citing Ex. 1002 ¶ 131).

Patent Owner disagrees and contends the “combination of *Casagrande*, *Russ*, and *Miller* as pled in the Petition, does not disclose the first scenario (*i.e.*, limitation 1[d][i]).” PO Resp. 20 (citing Pet. 25–27).

Patent Owner notes the “Petition cites to only *Casagrande* for alleged disclosure of the first scenario (i.e., limitation 1[d][i]).” *Id.* Patent Owner argues “there is no determination on whether ‘said second command’ is received ‘during a first period of time.’” PO Resp. 21 (citing Ex. 2008 ¶ 71). Patent Owner asserts the “Petition does not argue that it would have been obvious to modify *Casagrande* to satisfy this claim limitation, alone or in combination with *Russ* or *Miller*, so the combination of *Casagrande* and *Russ* does not disclose the first scenario (i.e., limitation 1[d][i]).” PO Resp. 21.

Regarding Patent Owner’s argument that “there is no determination [in *Casagrande*] on whether ‘said second command’ is received ‘during a first period of time’” (PO Resp. 21 (citing Ex. 2008 ¶ 71)), Petitioner replies that “*Casagrande* specifically teaches that ‘commercials within a television program may be associated with restrictions against fast forwarding or skipping, and a recording device may automatically present the commercial segments regardless of the receipt of user input requesting non-presentation of the segments.’” Reply 10–11 (citing Ex. 1006, 4:29–32). Petitioner notes that *Casagrande* explains: “a content provider of the first A/V stream 1504 *may prevent the user from maintaining such control.*” Reply 11 (citing Ex. 1006, 19:66–20:2; 5:66–6:3; Ex. 1002 ¶ 110). Petitioner thus concludes that “*Casagrande* teaches playback of the entire first A/V stream during a first time period (i.e., while restrictions are active), ‘regardless of’ whether the first or second playback state had been requested by the user.” Reply 11 (citing Ex. 1002 ¶ 111). Petitioner additionally argues that *Russ* “expressly includes limitations on skipping commercials based on the passage of a

‘specified length of time, such as two weeks.’” Reply 12 (citing Ex. 1008 ¶ 35).

We do not find persuasive Patent Owner’s contention there is no determination that “said second command is received during the first period of time” because Casagrande only teaches that the restriction on full playback is by way of information sent by the content provider. PO Resp. 21. This argument attacks Casagrande individually, but, as discussed above, the Petition relies on the combination of Casagrande and Russ, not just Casagrande, for teaching this limitation. *See In re Keller*, 642 F.2d 413, 426 (CCPA 1981).

Further, the evidence of record supports that Russ teaches restricting skipping commercials during playback for a certain initial time, so in combination with Casagrande, we find that this teaches providing a video program in its entirety for a first period of time. *See* Pet. 27 (citing Ex. 1002 ¶ 131); Russ ¶ 35 (“The commercial slot could also preclude trick play for only a specified length of time. Such as two weeks.”). We also do not find persuasive Patent Owner’s argument that Russ uses tags which determines whether a commercial can be skipped, and that it is the tag that determines whether the commercial can be skipped and not the time at which the video program is played back. PO Sur-reply 12–13. Again, Patent Owner attacks Russ individually. Petitioner relies on Russ’s teaching of the desirability of having a first period of time where the user must watch the entire program, so it is this known time-based limit in Russ that would have been implemented in Casagrande. *See* Pet. 27.

Additionally, we agree with Petitioner, and credit Dr. Jeffay’s testimony, that there would have been a motivation to combine Russ with

Casagrande in view of Casagrande’s recognition of the decreasing value of interstitial content over time, and the implementation of Russ’s time-based limits on restrictions in Casagrande would have offered the benefit of increasing a broadcaster’s financial value of the interstitial content. *See* Ex. 1002 ¶¶ 93, 149–150; Ex. 1006, 10:5–13; Ex. 1008 ¶ 35.

We additionally credit Dr. Jeffay’s testimony that there would have been success in the combination of Casagrande and Russ because a person of skill would have understood, based upon Russ’s disclosures, that users would have been willing to accept restrictions on commercial skipping. Ex. 1002 ¶ 93. Further, in view of the similarities of Casagrande and Russ, as Petitioner discusses, we find there would have been a reasonable expectation of success of the combination. *See* Pet. 30 (citing Ex. 1002 ¶ 137).

Accordingly, we do not find that Patent Owner’s arguments undermine Petitioner’s showing of the teaching of limitation 1[d][i] by the combination of Casagrande and Russ or Petitioner’s asserted rationale to combine the references. On this complete record, we agree with Petitioner that the combination of Casagrande and Russ teaches or suggests limitation 1[d][i] and rationale to combine the references has been demonstrated.

8. *Limitation 1[d][ii]*

Limitation 1[d][ii] of claim 1 recites: “(ii) provide said one of said plurality of video programs in its entirety to said display device in response to receiving said second command during a second period of time if said DVR is in said first playback state.” Ex. 1001, 12:20–24.

Petitioner notes that “[s]imilar to Casagrande, Russ discloses its ‘trick play functionality’ for skipping commercials ‘could be restricted,’

particularly suggesting to ‘*preclude trick play for only a specified length of time, such as two weeks.*’” Pet. 27 (citing Ex. 1008 ¶ 35). Petitioner thus argues that “Russ discloses the desirability of having a first period of time wherein the user must watch the entire A/V stream, including commercials, regardless of whether the user requested playback of a commercial-free stream.” *Id.* (citing Ex. 1002 ¶ 136). Petitioner notes that “Russ discloses the desirability of having a second period of time (i.e., once the restriction expires) in which the user may elect to skip the commercials or not.” *Id.*

Petitioner asserts that a person of ordinary skill in the art “would have been motivated to combine the time-based restrictions of Russ with the ability to restrict the skipping of interstitials as illustrated by Casagrande’s Figure 8.” Pet. 28.

In support, Dr. Jeffay testifies that “Russ discloses the desirability of having a first period of time wherein the user must watch the entire A/V stream, including commercials, such as when the operator or programmer has placed a two-week restriction on skipping commercials” and “the desirability of having a second period of time (*i.e.*, once the restriction expires) in which the user may elect to skip the commercials or not.” Ex. 1002 ¶ 136.

Patent Owner responds that the “combination of *Casagrande*, *Russ*, and *Miller* as pled in the Petition, does not disclose the second scenario (i.e., limitation 1[d][ii]).” PO Resp. 21 (citing Pet. at 27–30). In support, Patent Owner contends that Casagrande does not disclose the “second scenario for the similar reason that the limitation by the ‘content provider’ remains the same—there is no determination based on ‘receiving said second command during said second period of time’ as is required by the claim.” PO Resp. 21

(citing Ex. 1006, 19:66–20:2, 5:66–6:3). Patent Owner contends: “In other words, it is the ‘content provider’ that determines whether a commercial can be skipped—not the time period as claimed.” PO Resp. 21 (citing Ex. 2008 ¶ 72).

We do not find persuasive Patent Owner’s argument that “there is no determination based on ‘receiving said second command during [a] second period of time’” because in Casagrande it is the “‘content provider’ that determines whether a commercial can be skipped — not the time period as claimed.” PO Resp. 21 (citing Ex. 1006, 19:66–20:2, 5:66–6:3; Ex. 2008 ¶ 72). This argument attacks Casagrande individually, but the Petition relies on the combination of Casagrande and Russ, not just Casagrande, for teaching this limitation. Petitioner relies on Russ’s teaching of restricting skipping commercials during playback for a certain time and this teaching is combined with Casagrande, wherein once the restriction expires the user may elect to skip the commercials or not. *See* Pet. 29–30.

Moreover, we credit Dr. Jeffay’s testimony that “[t]o the extent it is suggested that Casagrande does not disclose lifting the restrictions on skipping interstitials, thereby creating a first period of time wherein skipping is restricted and a second period of time wherein skipping is allowed, Russ teaches such options.” Ex. 1002 ¶ 134. We agree with Dr. Jeffay that “Russ discloses the desirability of having a second period of time (*i.e.*, once the restriction expires) in which the user may elect to skip the commercials or not.” *Id.* ¶ 136 (citing Ex. 1008 ¶ 35); *see also* Russ ¶ 35 (“The commercial slot could also preclude trick play for only a specified length of time. Such as two weeks.”).

Therefore, in the combination of Casagrande and Russ, upon the expiry of the first period of time, there is a second period of time, and the playback state determines whether commercials are played (or not).

Petitioner also notes that “Russ further explains that ‘a tag corresponding with a commercial could expire after a period of time.’” Pet. 27 (quoting Ex. 1008 ¶ 35; citing Ex. 1002 ¶ 136).

Patent Owner responds that Russ does not disclose the second scenario because the “commercial-related functionality in *Russ* is driven by ‘tags,’” which “differentiate between the program and commercials” and “can also specify an expiration date.” PO Resp. 23 (citing Ex. 1008 ¶¶ 26–28, 35, 75). Patent Owner notes that the tags in Russ can “specify whether the user can fast forward through a commercial (so-called ‘trick play’ functionality).” PO Resp. 23. Patent Owner states that after a tag expiration date “the tag would become inactive or replaceable,” and the commercial would be no longer be viewable (because the tag is inactive) or the commercial could be replaced with a different commercial (because the tag is replaced). PO Resp. 23 (citing Ex. 1008 ¶¶ 35, 75).

Patent Owner argues that Russ does not disclose the time limitation because in Russ “it is the ‘tag’ that determines whether the commercial can be skipped—not the time at which the video program is played back.” PO Resp. 23. Further, Patent Owner asserts, after the tag expires, “the commercial would either be non-viewable or replaced by a new commercial,” that is, it would not be the transmitted commercial that is displayed. PO Resp. 24 (citing Ex. 1008 ¶ 75). Patent Owner contends “[a] POSITA would understand an ‘inactive tag’ to mean the commercial is no longer to be inserted/included into the video program, and thus is not

viewable during playback of the video program because a tag ‘signif[ies] where to insert an ad’ in a video program.” PO Resp. 24 (quoting Ex. 2008 ¶ 58) (emphasis omitted).

In Reply, Petitioner contends that Casagrande and Russ disclose, or otherwise render obvious, the second scenario in which a video program is provided in its entirety during a second period of time. Reply 12. In support, Petitioner notes that “Casagrande and Russ both disclose precluding “trick play for only a specified length of time, such as two weeks.” *Id.* (citing Ex. 1008 ¶¶ 34–35; Ex. 1006, 5:67–6:1; Ex. 1002 ¶ 135) (emphasis omitted). Petitioner contends that “[o]nce the *first period of time* ends, either through the expiration of a tag or additional information, Casagrande and Russ teach *a second period of time* when a user may elect to skip the commercial segments (or not).” Reply 12 (citing Ex. 1002 ¶ 136) (emphasis added).

Petitioner additionally notes that “Casagrande expressly discloses menu selection by which a user “may select one or more of the available segments for presentation.” Reply 13 (citing Ex. 1006, 4:1–8) (emphasis omitted). Petitioner argues that “Casagrande permits the user to select the full length first A/V stream, which in the combination with Russ would be available during the *second time period*.” *Id.* (citing Ex. 1006, 19:63–65, 13:5–12) (emphasis added).

Petitioner notes that “Russ similarly discloses viewing a program in its entirety even though the viewer has the option of utilizing trick play functionalities like fast-forwarding or skipping.” Reply 13. Petitioner notes that, in Russ, “a tag corresponding with a commercial could expire after a period of time, after which the tag would become inactive or replaceable.”

Reply 13 (citing Ex. 1008 ¶ 35) (emphases omitted). Petitioner argues that “nothing in Russ prohibits viewing commercials once the tag expires, and, regardless, a POSA would not implement the combination this way because Casagrande states that users may prefer to watch commercials in certain instances.” *Id.* (citing Ex. 1006, 14:49–51; Ex. 1015 ¶¶ 10–11).

Addressing Patent Owner’s argument that “the preclusion of trick play in *Russ* is commercial-dependent, not time-dependent” and, thus, different than the commercial skipping claimed in the ’122 patent (PO Resp. 26 (citing Ex. 2008 ¶ 80)), Petitioner replies that “[t]his argument assumes commercial tags expire after a specified time, after which commercials are never shown.” Reply 13 (citing PO Resp. 10). Petitioner contends that “this interpretation of Russ is inconsistent with Russ’s actual disclosures. Russ teaches using a multipurpose tag to command a primary device to ‘preclude trick play for only a specified length of time, such as two weeks’” (i.e., a first period of time), after which a user may utilize trick play functionality during a second period of time. Reply 13–14 (citing Ex. 1008 ¶¶ 34–35) (emphasis omitted). Petitioner contends: “Regardless, the combination of Casagrande and Russ articulated in the petition expressly includes the ability to watch commercials, even after the first period of time.” Reply 14 (citing Pet. 35–36).

Patent Owner disagrees in the Sur-reply:

Russ unambiguously states that if a commercial tag will preclude trick play for a period of time, it does so by having an associated expiration date: “The commercial slot could also preclude trick play for only a specified length of time, such as two weeks. For example, a tag corresponding with a commercial could expire after a period of time after which the tag would become inactive or replaceable.

Sur-reply 14 (quoting Ex. 1008 ¶ 35).

Patent Owner contends “[t]here is no support in *Russ* for the transmitted commercial to be skippable only after a first period of time.” Sur-reply 14. Patent Owner asserts: “In fact, *Russ* provides the opposite—that ‘trick play functionality such as fast forward, would not work for certain commercials as specified.’” *Id.* (citing Ex. 1008 ¶ 33) (emphasis omitted). Patent Owner concludes: “[a]s such, ‘trick play’ preclusion is commercial based, not time based. Accordingly, neither *Casagrande* nor *Russ* discloses this limitation.” Sur-reply 14.

We do not find persuasive Patent Owner’s argument that *Russ*’s teachings do not apply because it is its “tag” that determines whether the commercial can be skipped and not the time at which the video program is played back. PO Resp. 23. Again, Petitioner relies on *Russ*’s teaching of restricting skipping commercials during playback for a certain time combined with *Casagrande*, wherein once the restriction expires the user may elect to skip the commercials or not. Pet. 27–30. Thus, Patent Owner argues *Russ* individually, where, in combination, it is the time of restriction expiry, and the status of the playback state, that determines whether a commercial can be skipped or not.

Patent Owner states that “[t]he plain language of the claim requires that the processor provide the video program in different forms (i.e., with or without the ‘second portion’) based on whether the ‘second command’ was received during the ‘second period of time.’” PO Resp. 22. Patent Owner argues that “a POSITA would understand that the DVR must determine whether the ‘second command’ initiating playback was received during the ‘second period of time’ in order to determine whether the user is even

permitted to skip the claimed ‘second portion’ during playback.” *Id.* (citing Ex. 2008 ¶ 73).

Again, this argument attacks Casagrande individually, but the Petition relies on the combination of Casagrande and Russ, not just Casagrande, for the teaching of this limitation. Petitioner relies on Russ’s teaching of restricting skipping commercials during playback for a certain time and this teaching is combined with Casagrande, wherein once the restriction expires the user may elect to skip the commercials or not. *See* Pet. 29. Thus, in combination, upon the expiration of the first period of time, there is a second period of time, and the playback state determines whether commercials are played (or not).

Patent Owner contends “in the second scenario, the ‘first command’ to set the DVR in the ‘first playback state’ must be received before the ‘second command’ initiating playback is received.” PO Resp. 22 (citing Ex. 2008 ¶ 74).

Patent Owner asks too much. As discussed *supra* in our discussion on claim construction for the term “first command,” there is no indication in the claim that the “first command” and “second command” are linked or related. Limitation 1[c] requires that there be a controller configured to receive a “first command” that changes a DVR from a first playback state to a second playback state; limitation 1[d][ii] requires that the DVR be in a first playback state. Under limitation 1[c], the “first command” may, for instance, be set by a switch that is used to change playback states. Under limitation 1[c], the switch could be used to set the playback state, which is received by the controller of the DVR, and under limitation 1[d][ii], the system only makes a determination of whether the DVR is set in a first

playback state. Accordingly, the switch could be set to a certain playback state and it could remain at that setting through repeated intervening playback events under limitations 1[c] and 1[d][ii], which would not require the specific timing sequence that Patent Owner argues is required.

Patent Owner additionally argues that Petitioner mapped the selection of the first and second A/V streams to the “first command” and the “selection of particular segments” to the “second command,” but “*Casagrande* fails to disclose that its selection of ‘the first A/V stream 1504 or the second A/V stream 1512’ . . . is ever used with *Casagrande*’s ‘selection of particular segments from the selection menu’ . . . command”), much less in the sequence that the second scenario requires.” PO Resp. 22–23 (citing Ex. 2008 ¶ 74).

As discussed for limitation 1[c] above, *Casagrande* discloses that a user may select a certain playback stream, that is, a certain playback that may or may not contain commercials, and the user may choose and playback specific video segments. Ex. 1006, 4:1–8, 19:63–66. We determine that these disclosures are sufficient, in combination with Russ and its disclosure of the expiry of trick play restrictions, to teach that there is a certain playback state that is set, which would include a first playback state, and that there is a command from a user to playback a video program in a second period of time, which is all that the claim requires.

Patent Owner additionally argues that the “Petition does not identify any specific reasoning to combine or modify the references according to the claimed invention.” PO Resp. 27 (citing Pet. 27–30). Patent Owner contends that the “only support is from the declaration of Dr. Jeffay.” *Id.* (citing Ex. 1002 ¶¶ 136–138). Patent Owner asserts that “his declaration

should be afforded no weight because it does nothing more than restate Petitioner’s argument without any additional supporting evidence or reasoning.” *Id.*

We disagree, because we do not find Dr. Jeffay’s declaration at paragraphs 136–138 to be an exact restatement of the Petition’s arguments without any additional supporting evidence or reasoning.

Dr. Jeffay persuasively explains that “Russ discloses the desirability of having a second period of time (*i.e.*, once the restriction expires) in which the user may elect to skip the commercials or not.” Ex. 1002 ¶ 136 (citing Ex. 1008 ¶ 35). Dr. Jeffay persuasively explains that a “POSA would have been motivated to combine Casagrande and Russ in order to effectuate the desired result of restricting ‘temporally moving through particular identified segments’ that Casagrande discusses.” *Id.* (citing Ex. 1006, 4:20–21).

Dr. Jeffay persuasively explains that a “POSA would have been motivated to implement the known time-based limits on restrictions found in Russ in Casagrande’s DVR to obtain the predictable result of restricting the automatic skipping of interstitials for a finite period of time, thereby increasing the financial value of the interstitial content to the broadcaster.” Ex. 1002 ¶ 137.

Dr. Jeffay persuasively explains that a “POSA would understand that applying Russ’s technique would allow the content provider to obtain additional revenue from advertisements shown to viewers who value watching the program during the initial release period, while still appealing to viewers who are willing to delay watching the program to avoid commercials.” Ex. 1002 ¶ 138.

Petitioner persuasively explains that in Russ “‘primary device 140’ is

a STB that ‘includes a processor, a tuner system,’ ‘which may be a simplified processor and only one tuner, may be included to extract channels from the received downstream broadband signals.’” Pet. 17 (citing Ex. 1008 ¶¶ 20, 33) (emphasis omitted). Petitioner further explains that “[t]uners and related software had been shown in Russ to effectuate Casagrande’s desired channel extraction in a STB.” *Id.* (citing Ex. 1002 ¶ 101; Ex. 1006, 18:49–53).

In reviewing the record, we are not persuaded by Patent Owner’s argument because we find Petitioner provides sufficient evidence of record (Ex. 1009 ¶ 2; Ex. 1002 ¶ 103) that shows combining the teachings of the cited Casagrande, Russ, and Miller references would not have been “uniquely challenging or difficult for one of ordinary skill in the art,” nor would have “represented an unobvious step over the prior art.” *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (citing *KSR*, 550 U.S. at 418). Further, we find that Petitioner has provided sufficient rationale for the combination. *See KSR*, 550 U.S. at 415 (“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”).

Here, we find each of the Casagrande, Russ, and Miller references addresses the *function* of providing a commercial skipping capability (i.e., a “trick play” feature), or at least the processing of commercials (Miller paragraph 44) using *similar structures* such as a set top box, tuner, and/or a digital video recorder (DVR). *See, e.g.*, Casagrande (Ex. 1006, 1:18–34 (discussing DVRs and skipping over commercial breaks), and 9:64–67 (discussing “trick mode functions”); *see* Russ (Ex. 1008), ¶¶ 20–22 (discussing a “tuner”), and ¶ 33 (discussing a “trick play” feature); and

Miller (Ex. 1009) ¶ 2 (discussing a “tuner operable to receive a multiplexed signal”), and ¶ 16 (discussing a DVR). Therefore, we find a POSA would reasonably have consulted these references in solving the relevant problem faced by the inventor of the ’122 patent.

On this record, we are also persuaded that Petitioner’s rationale to modify Casagrande with Russ would offer an improvement, as evidenced by Dr. Jeffay’s un rebutted testimony that the modification would result in a *financial value* for the broadcaster, which we find is sufficient. Ex. 1002 ¶ 138. Further, we credit Dr. Jeffay’s testimony that a person of ordinary skill in the art would have been motivated to look to Miller in combination with Casagrande and Russ for details on processing of signals delivered to a DVR and for its multiplexing features. *Id.* ¶¶ 93, 104–106, 110. Nor do we find Dr. Jeffay’s declaration at paragraph 138 to be an exact restatement of the Petition’s arguments without any additional supporting evidence or reasoning, as discussed above.

Accordingly, we do not find that Patent Owner’s arguments undermine Petitioner’s showing of the teaching of limitation 1[d][ii] by the combination of Casagrande and Russ. Further, we find that Petitioner has provided sufficient rationale to combine the references.

On this complete record, we agree with Petitioner that the combination of Casagrande and Russ teaches or suggests limitation 1[d][ii] and a rationale to combine the references has been demonstrated.

9. Limitation 1[d][iii]

Limitation 1[d][iii] of claim 1 recites:

(iii) provide only a portion of said one of said plurality of video programs to said display device in response to receiving said

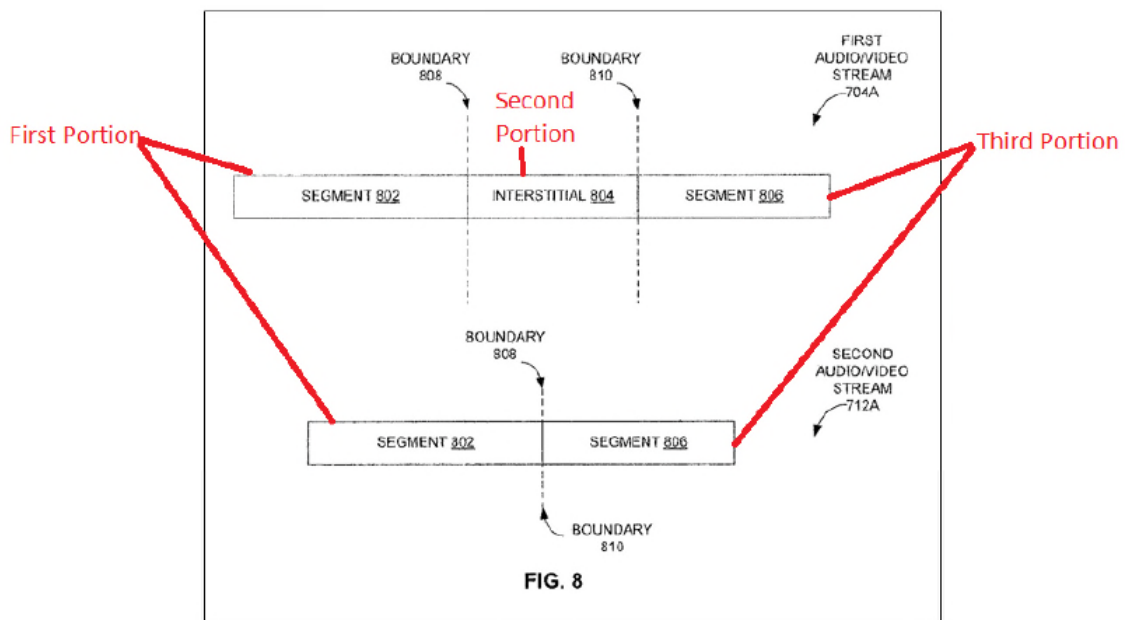
second command during said second period of time if said DVR is in said second playback state, said portion of said one of said plurality of video programs including at least said first and third portions of said one of said plurality of video programs, wherein said third portion is provided to said display device immediately following said first portion if said second command is received during said second period of time and said DVR is in said second playback state.

Ex. 1001, 12:24–36.

We note at the outset that the functional limitations of 1[d][iii] are performed when the second command is received during the second period of time and when the DVR is in a second playback state.

Petitioner argues that a “POSA would have understood that Casagrande’s ‘second A/V stream’ includes segments in the original temporal order, excluding one or more interstitial segments.” Pet. 31 (citing Ex. 1002 ¶ 145). Petitioner relies upon Casagrande’s Figure 21 as teaching a “process for processing an audio/video stream.” *Id.* (citing Ex. 1006, 23:45–46; Ex. 1002 ¶ 145). Petitioner contends that by using the steps depicted in Casagrande’s Figure 21, a user “effectively view[s] a subset of the segments of an A/V stream in the original temporal order of the segments, skipping output of undesignated segments of the A/V stream.” Pet. 31 (citing Ex. 1006, 24:23–26; Ex. 1002 ¶ 145). Thus, according to Petitioner, “in the combination with Russ, once the commercial skipping inhibition period (i.e., the claimed ‘first period of time’) expires, the combination would permit the user to request playback” with the commercial removed. Pet. 32 (citing Ex. 1002 ¶¶ 148–151).

Petitioner contends this is also shown in Casagrande’s Figure 8, as annotated by Petitioner below. Pet. 31 (citing Ex. 1006, 13:5–8; Ex. 1002 ¶ 146).



Shown above is Casagrande’s Figure 8, as annotated by Petitioner, depicting a first A/V stream including first, second, and third portions of video segments, in which the second portion is an interstitial (e.g., a commercial), and a second A/V stream in which the interstitial is excluded.

Consistent with Petitioner-annotated Figure 8 of Casagrande, above, Petitioner asserts that the “boundary 808 (e.g., the ending boundary of segment 802) is the starting point at which the interstitial 804 is to be filtered from the first A/V stream 704A” and that the “boundary 810 (e.g., the beginning boundary of segment 806) is the ending point at which the interstitial 804 is to be filtered from the first A/V Stream 704A,” and “[a]s a result of the filtering . . . the second segment 806 [third portion] is outputted immediately following the first segment 802 [first portion].” Pet. 32 (quoting Ex. 1006, 13:23–31 (alterations to Casagrande’s Fig. 8 added by Petitioner); Ex. 1002 ¶ 146).

Patent Owner contends that in Casagrande, it is the content provider that determines whether the transmitted commercial can be skipped, and there is no determination based on a second command in a second period of time. PO Resp. 25 (citing Ex. 2008 ¶ 77). Patent Owner further argues that in Russ, because the tag for a commercial can become inactive, “the preclusion of trick play in *Russ* is commercial-dependent, not time-dependent.” *Id.* at 26 (citing Ex. 2008 ¶ 80). Patent Owner asserts that Casagrande fails to disclose that its selection of A/V streams is used with the selection of segments from a selection menu, and fails to disclose the sequence required by the limitation. *Id.* at 27 (citing Ex. 2008 ¶ 81). Patent Owner also asserts that the rationale to combine the references is insufficient. PO Resp. 27–28.

As discussed for limitation 1[d][i], and as Petitioner asserts and we agree, Russ discloses that trick play functionality is restricted for only a specified period of time. *See* Ex. 1008 ¶¶ 34–35. Accordingly, we find support for Dr. Jeffay’s testimony that, in the view of one of ordinary skill in the art, Casagrande in combination with Russ teaches that after the expiry of the first period of time there is a second period of time in which commercials may be skipped. Ex. 1002 ¶¶ 148–151; *see also* Pet. 32. Additionally, we agree that Petitioner has demonstrated a rationale to combine Casagrande and Russ with a reasonable expectation of success of the combination, as discussed above in the discussion of limitation 1[a][i].

Accordingly, we do not find Patent Owner’s arguments on Casagrande and Russ to be persuasive for the reasons discussed above for limitation 1[d][ii]. We do not find that Patent Owner’s arguments undermine Petitioner’s showing of the teaching of limitation 1[d][iii] by the

combination of Casagrande and Russ. Further, we find that Petitioner has provided sufficient rationale to combine the references.

On this complete record, we agree with Petitioner that the combination of Casagrande and Russ teaches or suggests limitation 1[d][iii] and a rationale to combine the references has been demonstrated.

10. Limitation 1[e]

Limitation 1[e] of claim 1 recites: “wherein said second period of time is a period of time after said first period of time.” Ex. 1001, 12:38–39.

Dr. Jeffay testifies that “Russ clearly defines a first period of time where trick play is ‘preclude[d]’” so “during the first period of time, the combination of Casagrande and Russ would have resulted in the ability to play only the first A/V stream.” Ex. 1002 ¶ 155. Dr. Jeffay goes on to testify that, referencing Figure 8 of Casagrande, that “the second period of time wherein skipping of commercials is allowed begins once the restriction expires.” *Id.* ¶ 156.

We find Dr. Jeffay’s testimony persuasive because it is supported by the disclosures of the prior art. *Id.*

Patent Owner advances no arguments specific to temporal limitation 1[e]. *See generally* Response; Sur-reply.

We find Petitioner has shown that the collective teachings and suggestions of Casagrande, Russ, and Miller render limitation claim 1[e] obvious under Ground 1.

11. Conclusion for Claim 1 under Ground 1

Patent Owner presents no evidence of objective indicia of nonobviousness. *See generally* PO Resp. Weighing the record as a whole in

view of the findings and analysis above, we conclude that Petitioner has met its burden to show, by a preponderance of the evidence, that independent claim 1 would have been obvious over the collective teachings and suggestions of Casagrande, Russ, and Miller.

Accordingly, we determine that Petitioner has shown by a preponderance of the evidence that claim 1 is unpatentable.

b. Dependent Claim 2

Claim 2 recites:

The DVR of claim 1, further comprising a wireless transmitter in communication with said at least one processor and said memory device, said wireless transmitter being configured to transmit said one of said plurality of video programs in its entirety or said portion of said one of said plurality of programs at least indirectly to said display device, said display device being remotely located from said DVR.

Ex. 1001, 12:40–47.

Petitioner argues dependent claims 2 and 12 together under Ground 1.

Petitioner notes that “Casagrande discloses wirelessly transmitting programs to the display device. Casagrande explains that its DVR receiving device 1510 includes ‘A/V interface 1518, and control logic 1520.’” Pet. 34 (citing Ex. 1006, 17:53–55; Ex 1002 ¶ 159). In further support, Petitioner notes that “Casagrande teaches that its DVR receiving device is ‘communicatively coupled to the presentation device 114 through any type of . . . wireless connection.’” Pet. 34 (citing Ex. 1006, 6:54–56; Ex. 1002 ¶ 161).

Patent Owner responds: “The combination of *Casagrande*, *Russ*, and *Miller* fails to render obvious independent claims 1, 11, and 18, therefore,

that combination fails to render obvious dependent claims 2-10, 12-17, and 19-20 for at least the same reasons.” PO Resp. 29 (citing Ex. 2008 ¶ 85).

Notably, Patent Owner’s expert, Dr. Freedman, does not add anything further regarding all dependent claims 2–10, 12–17, 19, and 20, as considered under Ground 1:

Dependent claims 2–10 depend from and add limitations to independent claim 1. Dependent claims 12–17 depend from and add limitations to independent claim 11. Dependent claims 19 and 20 depend from and add limitations to independent claim 18. The combination of *Casagrande*, *Russ*, and *Miller* fails to render obvious independent claims 1, 11, and 18, therefore, that combination fails to render obvious dependent claims 2–10, 12–17, and 19–20 for at least the same reasons.

Ex. 2008 ¶ 85.

In Reply regarding all the claims dependent from either independent claim 1, independent claim 11, or independent claim 18, Petitioner contends: “PO’s Response provides no support from the ’122 Patent for this proposition and fails to explain any deficiencies in Petitioner’s or Dr. Jeffay’s analyses of the remaining challenged claims.” Reply 16.

Regarding claim 2, we credit Dr. Jeffay’s testimony that Casagrande’s “receiving device 1510 includes a communication interface 1502, a storage unit 1516, an A/V interface 1518, and control logic 1520.” Ex. 1002 ¶ 159 (quoting Ex. 1006, 17:53–55). Dr. Jeffay further notes “[i]n one implementation, the control logic 1520 includes a processor, such as a microprocessor, microcontroller, digital signal processor (DSP), or the like for execution of software configured to perform the various control functions described [t]herein.” Ex. 1002 ¶ 159 (quoting Ex. 1006, 18:45–49). Moreover, we credit Dr. Jeffay’s testimony that Casagrande explains

that “[t]he A/V interface 1518 may incorporate circuitry to output the A/V streams in any format recognizable by the display device 1514 . . . including WiFi.” Ex. 1002 ¶ 159 (quoting Ex. 1006, 18:29–35).

For the reasons explained by Petitioner above, we find Petitioner shows by a preponderance of the evidence that dependent claim 2 is unpatentable as obvious over the collective teachings and suggestions of Casagrande, Russ, and Miller.

c. Dependent Claim 3

Claim 3 recites:

The DVR of claim 1, further comprising at least one other tuner, wherein said at least one other tuner allows said DVR to receive at least one other video program while said tuner is being used to receive said plurality of video programs, said at least one other video program being selected by said user.

Ex. 1001, 12:48–53.

Petitioner argues that Miller discloses the “desirab[ility] to access multiple program content streams concurrently . . . [A] user may desire to view a first program and record a second program that are being communicated concurrently by a program distributor 106 to a receiving device 118.” Pet. 34–35 (citing Ex. 1009 ¶ 31; Ex. 1002 ¶ 169).

Patent Owner responds: “The combination of *Casagrande*, *Russ*, and *Miller* fails to render obvious independent claims 1, 11, and 18, therefore, that combination fails to render obvious dependent claims 2-10, 12-17, and 19-20 for at least the same reasons.” PO Resp. 29 (citing Ex. 2008 ¶ 85).

Patent Owner’s expert, Dr. Freedman, does not add anything further regarding the dependent claims, as considered under Ground 1, as noted above. Ex. 2008 ¶¶ 36–37.

In reply regarding all the claims dependent from either independent

claim 1, independent claim 11, or independent claim 18, Petitioner contends: “PO’s Response provides no support from the ’122 Patent for this proposition and fails to explain any deficiencies in Petitioner’s or Dr. Jeffay’s analyses of the remaining challenged claims.” Reply 16.

Regarding claim 3, we credit Dr. Jeffay’s testimony that Casagrande teaches the use of a tuner by way of a receiving device comprising, in one embodiment, a DVR. Ex. 1002 ¶ 165 (quoting Ex. 1006, 6:26–30 (“The receiving device 110 of Fig. 1 may be any device capable of receiving a presentation stream from the communication network 102.”)). We also credit Dr. Jeffay’s testimony that Russ similarly teaches the use of tuners in DVR systems, explaining that “[a] processor and a tuner system, which may be a simplified processor and only one tuner, may be included to extract channels from the received downstream broadband signals.” Ex. 1002 ¶ 167 (quoting Ex. 1008 ¶ 20). We additionally credit Dr. Jeffay’s testimony that Miller discloses this limitation at paragraph 31. Ex. 1002 ¶ 168 (citing Ex. 1009 ¶ 31).

For the reasons explained by Petitioner above, we find Petitioner shows by a preponderance of the evidence that dependent claim 3 is unpatentable as obvious over the collective teachings and suggestions of Casagrande, Russ, and Miller.

d. Dependent Claim 4

Claim 4 recites: “The DVR of claim 1, wherein said one of said plurality of video programs includes at least primary and secondary video content, and said first and third portions of said one of said plurality of video programs consists of said primary video content.” Ex. 1001, 12:54–58.

Petitioner argues that “a POSA would have understood the multiple segments of Casagrande’s video frames correspond to ‘primary content’ while the interstitials correspond to ‘secondary content.’” Pet. 35 (citing Ex. 1002 ¶ 173).

Patent Owner responds: “The combination of *Casagrande*, *Russ*, and *Miller* fails to render obvious independent claims 1, 11, and 18, therefore, that combination fails to render obvious dependent claims 2-10, 12-17, and 19-20 for at least the same reasons.” PO Resp. 29 (citing Ex. 2008 ¶ 85).

Patent Owner’s expert, Dr. Freedman, does not add anything further regarding the dependent claims, as considered under Ground 1, as noted above. Ex. 2008 ¶¶ 36–37.

In Reply regarding all the claims dependent from either independent claim 1, independent claim 11, or independent claim 18, Petitioner contends: “PO’s Response provides no support from the ’122 Patent for this proposition and fails to explain any deficiencies in Petitioner’s or Dr. Jeffay’s analyses of the remaining challenged claims.” Reply 16.

Regarding claim 4, we credit Dr. Jeffay’s testimony that “Casagrande discloses a television program comprised of multiple segments of video frames, which are interspersed with interstitials (*e.g.*, commercials, promotions, alerts, and other shows).” Ex. 1002 ¶ 173 (citing Ex. 1006, 4:57–59). We further credit Dr. Jeffay’s testimony that a “POSA would have understood that the multiple segments of video frames in Casagrande correspond to the ‘primary content’ or ‘time-shifted’ data in the [’122] Patent. Similarly, the interstitials of Casagrande correspond to the ‘secondary content’ or ‘auxiliary data’ of the ’122 Patent.” Ex. 1002 ¶ 173.

For the reasons explained by Petitioner above, we find Petitioner shows by a preponderance of the evidence that dependent claim 4 is unpatentable as obvious over the collective teachings and suggestions of Casagrande, Russ, and Miller.

e. Dependent Claim 5

Claim 5 recites:

The DVR of claim 4, wherein said second portion of said one of said plurality of video programs consists of said secondary video content and said memory device is further configured to store at least one time when said second portion begins and at least one time when said second portion ends.

Ex. 1001, 12:59–64.

Petitioner argues dependent claims 5 and 13 together. Pet. 26.

Petitioner argues that “[f]or Casagrande’s location information corresponding to ‘presentation times,’ a POSA would have found it obvious to implement that information as a time stamp of the stored video.” Pet. 36 (citing Ex. 1002 ¶ 182).

Patent Owner responds: “The combination of *Casagrande*, *Russ*, and *Miller* fails to render obvious independent claims 1, 11, and 18, therefore, that combination fails to render obvious dependent claims 2–10, 12–17, and 19–20 for at least the same reasons.” PO Resp. 29 (citing Ex. 2008 ¶ 85).

Patent Owner’s expert, Dr. Freedman, does not add anything further regarding the dependent claims, as considered under Ground 1, as noted above. Ex. 2008 ¶¶ 36–37.

In reply regarding all the claims dependent from either independent claim 1, independent claim 11, or independent claim 18, Petitioner contends: “PO’s Response provides no support from the ’122 Patent for this proposition and fails to explain any deficiencies in Petitioner’s or

Dr. Jeffay’s analyses of the remaining challenged claims.” Reply 16.

Regarding claim 5, we credit Dr. Jeffay’s testimony that “Casagrande explains how location information which may consist of boundaries within the A/V stream, and offsets from those boundaries, correspond to ‘presentation times’ of the content.” Ex. 1002 ¶ 181 (citing Ex. 1006, 14:34–35). We also credit Dr. Jeffay’s testimony that it would have been obvious to “a POSA that the location information corresponding to ‘presentation times’ could be implemented as a time stamp of the stored video. This could simplify implementation as MPEG files, which Casagrande explains was a common format for video presentation that was also widely known to include time stamp information.” Ex. 1002 ¶ 182 (citing Ex. 1006, 7:12–16).

For the reasons explained by Petitioner above, we find Petitioner shows by a preponderance of the evidence that dependent claim 5 is unpatentable as obvious over the collective teachings and suggestions of Casagrande, Russ, and Miller.

f. Dependent Claim 6

Claim 6 recites:

The DVR of claim 1, wherein said first period of time is a period of time that begins when said one of said plurality of video programs is stored on said memory device and available to be viewed and ends within a predetermined time thereafter, said predetermined time being less than one week.

Ex. 1001, 12:65–13:3.

Petitioner notes that “Russ teaches ‘trick play functionality’ to skip commercials. Pet. 37 (citing Ex. 1008 ¶ 33); *see also supra* Claim Element 1[d][iii]. Petitioner notes that Russ explains “[t]he commercial slot could

also preclude trick play for only a specified length of time, such as two weeks.” Pet. 37 (citing Ex. 1008 ¶ 35; Ex. 1002 ¶ 187).

Petitioner argues: “A POSA would have understood that Russ’s disclosure of a two-week period is exemplary in nature and other time periods are useable.” Pet. 37 (citing Ex. 1002 ¶¶ 188). Petitioner further argues: “A POSA would have understood that a day or a weekend are also examples of ‘specified length[s]’ of time that would be an obvious implementation choice.” Pet. 37.

Patent Owner responds: “The combination of *Casagrande*, *Russ*, and *Miller* fails to render obvious independent claims 1, 11, and 18, therefore, that combination fails to render obvious dependent claims 2-10, 12-17, and 19-20 for at least the same reasons.” PO Resp. 29 (citing Ex. 2008 ¶ 85).

Patent Owner’s expert, Dr. Freedman, does not add anything further regarding the dependent claims, as considered under Ground 1, as noted above. Ex. 2008 ¶¶ 36–37.

In reply regarding all the claims dependent from either independent claim 1, independent claim 11, or independent claim 18, Petitioner contends: “PO’s Response provides no support from the ’122 Patent for this proposition and fails to explain any deficiencies in Petitioner’s or Dr. Jeffay’s analyses of the remaining challenged claims.” Reply 16.

Regarding claim 6, we credit Dr. Jeffay’s testimony that Russ discloses “[t]he commercial slot could also preclude trick play for only a specified length of time, such as two weeks.” Ex. 1002 ¶ 187 (quoting Ex. 1008 ¶ 35). We find Dr. Jeffay’s testimony is persuasive that “a POSA would have understood that Russ’s disclosure of a two week period is exemplary in nature,” and a “‘local cable operator’ or ‘presentation

programmer’ would have found it obvious to specify a shorter period of time, such as a day or less than a week, if a particular commercial were only relevant for said time period.” Ex. 1002 ¶ 188.

For the reasons explained by Petitioner above, we find Petitioner shows by a preponderance of the evidence that dependent claim 6 is unpatentable as obvious over the collective teachings and suggestions of Casagrande, Russ, and Miller.

g. Dependent Claim 7

Claim 7 recites: “The DVR of claim 1, wherein said single channel is stored in said memory and said at least one processor is configured to tune said tuner to said single channel in response to said controller receiving said third command.” Ex. 1001, 13:4–7.

Petitioner argues dependent claims 7 and 16 together. Pet. 37–38.

Petitioner argues that claims 7 and 16 would have been obvious for the same reasons as claims 1 and 11. Petitioner notes that Casagrande’s control logic “receive[s] user input 1523 directing the operation of the receiving device 1510.” Pet. 38 (quoting Ex. 1006, 18:54–60; citing Ex. 1002 ¶ 191). Petitioner notes that Casagrande’s receiving device “receive[s] the first A/V stream 1504 by way of the communication interface 1502, and store[s] the A/V stream 1504 in the storage unit 1516.” *Id.* (quoting Ex. 1006, 18:64–67; citing Ex. 1002 ¶ 191).

Petitioner further notes that Miller likewise discloses a “content stream selector” “compris[ing] a single tuner” for “tun[ing] to a frequency of a carrier signal that carries multiple program content streams multiplexed.” Pet. 38 (quoting Ex. 1009 ¶ 63; Ex. 1002 ¶ 194). Petitioner additionally notes that “[t]he content stream selector may then begin and continue to

receive and forward, such as by storing in a buffer 412, program content portions from each of the multiple program content streams, as they arrive over the carrier signal.” *Id.* (quoting Ex. 1009 ¶ 63; citing Ex. 1002 ¶ 194).

Patent Owner responds: “The combination of *Casagrande*, *Russ*, and *Miller* fails to render obvious independent claims 1, 11, and 18, therefore, that combination fails to render obvious dependent claims 2-10, 12-17, and 19-20 for at least the same reasons.” PO Resp. 29 (citing Ex. 2008 ¶ 85).

Patent Owner’s expert, Dr. Freedman, does not add anything further regarding the dependent claims, as considered under Ground 1, as noted above. Ex. 2008 ¶¶ 36–37.

In reply regarding all the claims dependent from either independent claim 1, independent claim 11, or independent claim 18, Petitioner contends: “PO’s Response provides no support from the ’122 Patent for this proposition and fails to explain any deficiencies in Petitioner’s or Dr. Jeffay’s analyses of the remaining challenged claims.” Reply 16.

Regarding claim 7, we credit Dr. Jeffay’s testimony that *Casagrande* discloses a third command that instructs the DVR to receive and store a plurality of video programs and that *Casagrande*’s DVR uses control logic 1520 to communicate with a user interface 1522 that is “configured to receive user input 1523 directing the operation of the receiving device 1510.” Ex. 1002 ¶ 191 (quoting Ex. 1006, 18:54–60). We also credit Dr. Jeffay’s testimony that *Casagrande* discloses the storage of supplemental content within the storage unit of the DVR. Ex. 1002 ¶ 192 (quoting Ex. 1006, 18:18–20 (“Coupled to the communication interface 1502 is a storage unit 1516, which is configured to store both the first A/V stream 1504 and the supplemental content 1506.”)). We further credit Dr. Jeffay’s testimony

that the disclosures of Miller renders this limitation obvious. Ex. 1002 ¶ 193 (citing Ex. 1009 ¶ 2).

For the reasons explained by Petitioner above, we find Petitioner shows by a preponderance of the evidence that dependent claim 7 is unpatentable as obvious over the collective teachings and suggestions of Casagrande, Russ, and Miller.

h. Dependent Claim 8

Claim 8 recites:

The DVR of claim 1, wherein data communicated via said single channel is compressed prior to transmission and said at least one processor is configured to decompress said data after its have [sic] been received so that said one of said plurality of video programs or said portion of said one of said plurality of video programs can be displayed, depending on when said second command is received and said playback state of said DVR.

Ex. 1001, 13:8–15.

Petitioner argues that claims 8 and 15 would have been obvious for the same reasons as claims 1 and 11. Pet. 39. Petitioner notes that Casagrande’s “A/V data may be formatted according to one of the MPEG encoding standards, such as MPEG-2 or MPEG-4.” Pet. 39 (quoting Ex. 1006, 7:12–14; citing Ex. 1002 ¶ 197). Petitioner persuasively shows that a “POSA would have understood that such standards, including MPEG-2 and MPEG-4, involved compressing video data.” Pet. 39 (citing Ex. 1002 ¶ 197). Petitioner notes Casagrande’s signature data “comprises compressed data, e.g., compressed audio or video data. The compressed data may then be expanded and compared with the audio or video data of the first presentation stream 104 which has also been uncompressed.” Pet. 39 (quoting Ex. 1006, 8:55–60; citing Ex. 1002 ¶ 198) (emphasis omitted).

Petitioner additionally notes that Miller discloses content portions

“comprise MPEG . . . packets that contain compressed . . . video . . . data.” Pet. 40 (quoting Ex. 1009 ¶ 29; citing Ex. 1002 ¶ 200). Petitioner notes that Miller explains that “[t]he video processing system 404 and/or the presenter 408 may perform additional processing on program content portions, such as decompression . . . prior to communicating the program content to the presentation device 120.” Pet. 40 (quoting Ex. 1009 ¶ 52; citing Ex. 1002 ¶ 200).

Patent Owner responds: “The combination of *Casagrande*, *Russ*, and *Miller* fails to render obvious independent claims 1, 11, and 18, therefore, that combination fails to render obvious dependent claims 2-10, 12-17, and 19-20 for at least the same reasons.” PO Resp. 29 (citing Ex. 2008 ¶ 85).

Patent Owner’s expert, Dr. Freedman, does not add anything further regarding the dependent claims, as considered under Ground 1, as noted above. Ex. 2008 ¶¶ 36–37.

In reply, regarding all the claims dependent from either independent claim 1, independent claim 11, or independent claim 18, Petitioner contends: “PO’s Response provides no support from the ’122 Patent for this proposition and fails to explain any deficiencies in Petitioner’s or Dr. Jeffay’s analyses of the remaining challenged claims.” Reply 16.

Regarding claim 8, we credit Dr. Jeffay’s testimony that Casagrande teaches that “the A/V data may be formatted according to one of the MPEG encoding standards, such as MPEG-2 or MPEG-4.” Ex. 1002 ¶ 197 (quoting Ex. 1006, 7:12–14). We credit Dr. Jeffay’s testimony that a “POSA would have understood that MPEG encoding standards, including MPEG-2 and MPEG-4 both involved compressing video data.” Ex. 1002 ¶ 197.

Turning to Miller, we credit Dr. Jeffay’s testimony that Miller further

explains that “[t]he video processing system 404 and/or the presenter 408 may perform additional processing on program content portions, such as decompressions, decryption, encryption, scaling, and the like, prior to communicating the program content to the presentation device 120.” Ex. 1002 ¶ 200 (quoting Ex. 1009 ¶ 52).

For the reasons explained by Petitioner above, we find Petitioner shows by a preponderance of the evidence that dependent claim 8 is unpatentable as obvious over the collective teachings and suggestions of Casagrande, Russ, and Miller.

i. Dependent Claim 9

Claim 9 recites: “The DVR of claim 5, wherein said secondary video content comprises at least one advertisement.” Ex. 1001, 13:16–17.

Petitioner notes that Casagrande discloses an A/V stream that is “comprised of multiple segments of video frames, which are interspersed with interstitials (e.g., commercials).” Pet. 40 (quoting Ex. 1006, 4:57–62; citing Ex. 1002 ¶ 203).

Patent Owner responds: “The combination of *Casagrande*, *Russ*, and *Miller* fails to render obvious independent claims 1, 11, and 18, therefore, that combination fails to render obvious dependent claims 2–10, 12–17, and 19–20 for at least the same reasons.” PO Resp. 29 (citing Ex. 2008 ¶ 85).

Patent Owner’s expert, Dr. Freedman, does not add anything further regarding the dependent claims, as considered under Ground 1, as noted above. Ex. 2008 ¶¶ 36–37.

In reply, regarding all the claims dependent from either independent claim 1, independent claim 11, or independent claim 18, Petitioner contends: “PO’s Response provides no support from the ’122 Patent for this

proposition and fails to explain any deficiencies in Petitioner’s or Dr. Jeffay’s analyses of the remaining challenged claims.” Reply 16.

Regarding claim 9, we credit Dr. Jeffay’s testimony noting that Casagrande discloses interstitials, which include commercials. Ex. 1002 ¶ 203 (citing Ex. 1006, 4:57–63).

For the reasons explained by Petitioner above, we find Petitioner shows by a preponderance of the evidence that dependent claim 9 is unpatentable as obvious over the collective teachings and suggestions of Casagrande, Russ, and Miller.

j. Dependent Claim 10

Claim 10 depends from claim 1 and adds:

10[a] “The DVR of claim 1, wherein said at least one processor is further configured to (i) retrieve said portion of said one of said plurality of video programs from said memory if said second command is received during said second period of time and said DVR is in said second playback state, and”

10[b] “(ii) retrieve said one of said plurality of video programs in its entirety from said memory device if another second command is received at a time thereafter and said DVR is switched to said first playback state at or before said time thereafter.”

Ex. 1001, 13:18–27.

Regarding limitation 10[a], Petitioner notes that Casagrande discloses “a processor . . . to perform the various control functions.” Pet. 40 (quoting Ex. 1006, 18:45–49; citing Ex. 1002 ¶ 206); *see supra* Claim Element 1[d][i]. Petitioner further notes that Casagrande teaches that “[b]oth the first A/V stream 1504 and the second A/V stream 1512 may reside within the

storage unit 1516.” Pet. 41 (quoting Ex. 1006, 19:43–44; citing Ex. 1002 ¶ 207). Petitioner notes that Casagrande discloses users select[ing] . . . whether the first A/V stream 1504 or the second A/V stream 1512 is outputted to the display device 1514 by way of the A/V interface.” Pet. 41 (quoting Ex. 1006, 19:63–66; citing Ex. 1002 ¶ 207). Petitioner further notes Casagrande explains that “[a]t some point after the location information 1508 is processed, the control logic 1520 generates and transmits a second A/V stream 1512 over the A/V interface 1518 to the display device 1514.” Pet. 41 (quoting Ex. 1006, 19:10–13; Ex. 1002 ¶ 208).

Regarding limitation 10[b], Petitioner argues: “[a] POSA would have understood that changing the ‘playback state’ of Casagrande is not temporally limited to before the first request to view an A/V stream is received and processed.” Pet. 41 (citing Ex. 1002 ¶ 213). Petitioner thus concludes that “a subsequent request to view the ‘first A/V stream’ comprising the entire content stream may be received after a request to view the ‘second A/V stream’ has been processed, such as when commercials are of interest to a user.” *Id.* Petitioner additionally notes Casagrande explains that users “may select . . . whether the first A/V stream 1504 or the second A/V stream 1512 is outputted to the display device 1514 by way of the A/V interface 1518.” Pet. 41 (quoting Ex. 1006, 19:63–66; citing Ex. 1002 ¶ 213). Petitioner notes that Casagrande discloses that both A/V streams 1504 and 1512 “may reside within storage unit 1516.” Pet. 42 (quoting Ex. 1006, 19:44–45; citing Ex. 1002 ¶ 214).

Patent Owner responds: “The combination of *Casagrande*, *Russ*, and *Miller* fails to render obvious independent claims 1, 11, and 18, therefore,

that combination fails to render obvious dependent claims 2–10, 12–17, and 19–20 for at least the same reasons.” PO Resp. 29 (citing Ex. 2008 ¶ 85).

Patent Owner’s expert, Dr. Freedman, does not add anything further regarding the dependent claims, as considered under Ground 1, as noted above. Ex. 2008 ¶¶ 36–37.

In reply, regarding all the claims dependent from either independent claim 1, independent claim 11, or independent claim 18, Petitioner contends: “PO’s Response provides no support from the ’122 Patent for this proposition and fails to explain any deficiencies in Petitioner’s or Dr. Jeffay’s analyses of the remaining challenged claims.” Reply 16.

Regarding claim 10(a), we credit Dr. Jeffay’s testimony for the same reasons articulated in paragraphs 206–210 of the declaration. Ex. 1002 ¶¶ 206–210.

Regarding claim 10(b), we credit Dr. Jeffay’s testimony for the same reasons articulated in paragraphs 211–216 of the declaration. Ex. 1002 ¶¶ 211–216.

For the reasons explained by Petitioner above, we find Petitioner shows by a preponderance of the evidence that dependent claim 10 is unpatentable as obvious over the collective teachings and suggestions of Casagrande, Russ, and Miller.

k. Independent Claim 11

Petitioner advances essentially the same evidence and arguments for independent claims 1, 11, and 18. Pet. 14. *See* Claim 11, Ex. 1001, 13:28–14:14.

Patent Owner responds:

The Petition does not provide independent analysis for independent claims 11 or 18. *See* Pet., pp. 14-33. Instead, it

contends that the same disclosures in *Casagrande*, *Russ*, and *Miller* are relevant to each of the independent claims. *See id.* As a result, the Petition fails to show that the combination of *Casagrande*, *Russ*, and *Miller* renders obvious claims 11 and 18 for the same reasons as claim 1. *See supra* Section IV.A.1; Ex. 2008, ¶84.

PO Resp. 28.

Regarding claim 11, we credit Dr. Jeffay’s testimony and the other evidence or record for the same reasons discussed above regarding independent claim 1.

Accordingly, we find Petitioner has shown that the collective teachings and suggestions of *Casagrande*, *Russ*, and *Miller* render independent claim 11 obvious under Ground 1.

l. Dependent Claim 12

Claim 12 recites:

The method of claim 11, wherein said step of providing said at least a portion of said one of said plurality of video programs to a display device further comprises transmitting said at least a portion of said one of said plurality of video programs to said display device via a transmission path that includes at least one wireless connection, said display device being remotely located from said DVR.

Ex. 1001, 14:15–21.

Petitioner argues dependent claims 2 and 12 together under Ground 1.

Petitioner notes that “*Casagrande* discloses wirelessly transmitting programs to the display device. *Casagrande* explains that its DVR receiving device 1510 includes ‘A/V interface 1518, and control logic 1520.’” Pet. 34 (citing Ex. 1006, 17:53–55; Ex 1002 ¶ 159). In further support, Petitioner notes that “*Casagrande* teaches that its DVR receiving device is communicatively coupled to the presentation device 114 through any type

of . . . wireless connection.” Pet. 34 (citing Ex. 1006, 6:54–56; Ex. 1002 ¶ 161).

Patent Owner responds: “The combination of *Casagrande*, *Russ*, and *Miller* fails to render obvious independent claims 1, 11, and 18, therefore, that combination fails to render obvious dependent claims 2-10, 12-17, and 19-20 for at least the same reasons.” PO Resp. 29 (citing Ex. 2008 ¶ 85).

Patent Owner’s expert, Dr. Freedman, does not add anything further regarding the dependent claims, as considered under Ground 1, as noted above. Ex. 2008 ¶¶ 36–37.

In reply, regarding all the claims dependent from either independent claim 1, independent claim 11, or independent claim 18, Petitioner contends: “PO’s Response provides no support from the ’122 Patent for this proposition and fails to explain any deficiencies in Petitioner’s or Dr. Jeffay’s analyses of the remaining challenged claims.” Reply 16.

Regarding claim 12, we credit Dr. Jeffay’s testimony and the other evidence of record for the same reasons discussed above regarding claim 2.

For the reasons explained by Petitioner above, we find Petitioner shows by a preponderance of the evidence that claim 12 is unpatentable as obvious over the collective teachings and suggestions of *Casagrande*, *Russ*, and *Miller*.

m. Dependent Claim 13

Claim 13 recites:

The method of claim 11, wherein said step of storing said plurality of video programs on said at least one memory device in said DVR further comprises storing at least one time of when said second portion of said video program begins and at least one time of when said second portion of said video program ends.

Ex. 1001, 14:22–27.

Petitioner argues dependent claims 5 and 13 together. Pet. 26.

Petitioner argues that “[f]or Casagrande’s location information corresponding to ‘presentation times,’ a POSA would have found it obvious to implement that information as a time stamp of the stored video.” Pet. 36 (citing Ex. 1002 ¶ 182).

Patent Owner responds: “The combination of *Casagrande*, *Russ*, and *Miller* fails to render obvious independent claims 1, 11, and 18, therefore, that combination fails to render obvious dependent claims 2–10, 12–17, and 19–20 for at least the same reasons.” PO Resp. 29 (citing Ex. 2008 ¶ 85).

Patent Owner’s expert, Dr. Freedman, does not add anything further regarding the dependent claims, as considered under Ground 1, as noted above. Ex. 2008 ¶¶ 36–37.

In reply, regarding all the claims dependent from either independent claim 1, independent claim 11, or independent claim 18, Petitioner contends: “PO’s Response provides no support from the ’122 Patent for this proposition and fails to explain any deficiencies in Petitioner’s or Dr. Jeffay’s analyses of the remaining challenged claims.” Reply 16.

Regarding claim 13, we credit Dr. Jeffay’s testimony for the same reasons discussed above regarding claim 5.

For the reasons explained by Petitioner above, we find Petitioner shows by a preponderance of the evidence that dependent claim 13 is unpatentable as obvious over the collective teachings and suggestions of Casagrande, Russ, and Miller.

n. Dependent Claim 14

Claim 14 recites:

The method of claim 11, wherein said one of said plurality of video programs includes at least primary and secondary video

content, said portion of said video program that is provided to said display device if said second command is received during said second period of time and said DVR is in said second playback state consists of said primary video content, and said secondary video content includes at least one advertisement.

Ex. 1001, 14:28–35.

Petitioner argues that “[c]laim 14 is obvious for the same reasons as claims 4–5 and 9.” Pet. 42 (citing Ex. 1002 ¶¶ 243-44).

Patent Owner responds: “The combination of *Casagrande*, *Russ*, and *Miller* fails to render obvious independent claims 1, 11, and 18, therefore, that combination fails to render obvious dependent claims 2-10, 12-17, and 19-20 for at least the same reasons.” PO Resp. 29 (citing Ex. 2008 ¶ 85).

Patent Owner’s expert, Dr. Freedman, does not add anything further regarding the dependent claims, as considered under Ground 1, as noted above. Ex. 2008 ¶¶ 36–37.

In reply, regarding all the claims dependent from either independent claim 1, independent claim 11, or independent claim 18, Petitioner contends: “PO’s Response provides no support from the ’122 Patent for this proposition and fails to explain any deficiencies in Petitioner’s or Dr. Jeffay’s analyses of the remaining challenged claims.” Reply 16.

Regarding claim 12, we credit Dr. Jeffay’s testimony for the same reasons discussed above regarding claims 4, 5, and 9.

For the reasons explained by Petitioner above, we find Petitioner shows by a preponderance of the evidence that dependent claim 14 is unpatentable as obvious over the collective teachings and suggestions of *Casagrande*, *Russ*, and *Miller*.

o. Dependent Claim 15

Claim 15 recites:

The method of claim 11, further comprising the steps of: compressing said plurality of video programs prior to said plurality of video programs being transmitted over said data distribution system, and decompressing said plurality of video programs after said plurality of video programs have been received by said DVR[] and before said one of said plurality of video programs or portion thereof is provided to said display device.

Ex. 1001, 14:36–45.

Petitioner argues that claims 8 and 15 would have been obvious for the same reasons as claims 1 and 11. Pet. 39. Petitioner notes that Casagrande’s “A/V data may be formatted according to one of the MPEG encoding standards, such as MPEG-2 or MPEG-4.” Pet. 39 (quoting Ex. 1006, 7:12–14; citing Ex. 1002 ¶ 197). Petitioner persuasively shows that a “POSA would have understood that such standards, including MPEG-2 and MPEG-4, involved compressing video data.” Pet. 39 (citing Ex. 1002 ¶ 197). Petitioner notes Casagrande’s signature data “comprises compressed data, e.g., compressed audio or video data. The compressed data may then be expanded and compared with the audio or video data of the first presentation stream 104 which has also been uncompressed.” Pet. 39 (quoting Ex. 1006, 8:55–60; citing Ex. 1002 ¶ 198) (emphasis omitted).

Petitioner additionally notes that Miller discloses content portions “comprise MPEG . . . packets that contain compressed . . . video . . . data.” Pet. 40 (quoting Ex. 1009 ¶ 29; citing Ex. 1002 ¶ 200). Petitioner notes that Miller explains that “[t]he video processing system 404 and/or the presenter 408 may perform additional processing on program content portions, such as decompression . . . prior to communicating the program content to the

presentation device 120.” Pet. 40 (quoting Ex. 1009 ¶ 52; citing Ex. 1002 ¶ 200).

Patent Owner responds: “The combination of *Casagrande*, *Russ*, and *Miller* fails to render obvious independent claims 1, 11, and 18, therefore, that combination fails to render obvious dependent claims 2–10, 12–17, and 19–20 for at least the same reasons.” PO Resp. 29 (citing Ex. 2008 ¶ 85).

Patent Owner’s expert, Dr. Freedman, does not add anything further regarding the dependent claims, as considered under Ground 1, as noted above. Ex. 2008 ¶¶ 36–37.

In reply, regarding all the claims dependent from either independent claim 1, independent claim 11, or independent claim 18, Petitioner contends: “PO’s Response provides no support from the ’122 Patent for this proposition and fails to explain any deficiencies in Petitioner’s or Dr. Jeffay’s analyses of the remaining challenged claims.” Reply 16.

Regarding claim 15, we credit Dr. Jeffay’s testimony for the reasons discussed above regarding claim 8, and independent claims 1 and 11.

For the reasons explained by Petitioner above, we find Petitioner shows by a preponderance of the evidence that dependent claim 15 is unpatentable as obvious over the collective teachings and suggestions of *Casagrande*, *Russ*, and *Miller*.

p. Dependent Claim 16

Claim 16 recites:

The method of claim 11, further comprising the step of tuning said single tuner to a particular channel at a particular time in response to receiving said third command, said particular channel and said particular time being stored in said at least one memory device in said DVR.

Ex. 1001, 14:46–50.

Petitioner argues dependent claims 7 and 16 together. Pet. 37–38.

Petitioner argues that claims 7 and 16 would have been obvious for the same reasons as claims 1 and 11. Petitioner notes that Casagrande’s control logic “receive[s] user input 1523 directing the operation of the receiving device 1510.” Pet. 38 (quoting Ex. 1006, 18:54–60; citing Ex. 1002 ¶ 191). Petitioner notes that Casagrande’s receiving device “receive[s] the first A/V stream 1504 by way of the communication interface 1502, and store[s] the A/V stream 1504 in the storage unit 1516.” *Id.*

Petitioner further notes that Miller likewise discloses a “content stream selector” “compris[ing] a single tuner” for “tun[ing] to a frequency of a carrier signal that carries multiple program content streams multiplexed.” Pet. 38 (quoting Ex. 1009 ¶ 63; Ex. 1002 ¶ 194). Petitioner additionally notes that “[t]he content stream selector may then begin and continue to receive and forward, such as by storing in a buffer 412, program content portions from each of the multiple program content streams, as they arrive over the carrier signal.” *Id.* (quoting Ex. 1009 ¶ 63; citing Ex. 1002 ¶ 194).

Patent Owner responds: “The combination of *Casagrande*, *Russ*, and *Miller* fails to render obvious independent claims 1, 11, and 18, therefore, that combination fails to render obvious dependent claims 2–10, 12–17, and 19–20 for at least the same reasons.” PO Resp. 29 (citing Ex. 2008 ¶ 85).

Patent Owner’s expert, Dr. Freedman, does not add anything further regarding the dependent claims, as considered under Ground 1, as noted above. Ex. 2008 ¶¶ 36–37.

In reply, regarding all the claims dependent from either independent claim 1, independent claim 11, or independent claim 18, Petitioner contends: “PO’s Response provides no support from the ’122 Patent for this

proposition and fails to explain any deficiencies in Petitioner's or Dr. Jeffay's analyses of the remaining challenged claims." Reply 16.

Regarding claim 16, we credit Dr. Jeffay's testimony for the same reasons discussed above regarding claim 7.

For the reasons explained by Petitioner above, we find Petitioner shows by a preponderance of the evidence that dependent claim 16 is unpatentable as obvious over the collective teachings and suggestions of Casagrande, Russ, and Miller.

q. Dependent Claim 17

Claim 17 recites:

The method of claim 16, further comprising the step of receiving a fourth command from said at least one user of said DVR, said fourth command indicating a desire to record a second video program, which is accomplished using another tuner if said second video program is being transmitted to said DVR while said plurality of video programs are being transmitted to said DVR.

Ex. 1001, 14:51–57.

Petitioner explains that Casagrande teaches its DVR “perform[s] further processing using the identified portions of the presentation stream, such as filtering of segments of the presentation stream.” Pet. 42 (quoting Ex.1006, 3:5–7; citing Ex. 1002 ¶ 250). Petitioner notes Casagrande discloses that “communication interface 1502” further includes “circuitry to receive a first A/V stream 1504 and location information 1508.” Pet. 42 (quoting Ex. 1006, 17:62–64; citing Ex. 1002 ¶ 250). Petitioner further notes Casagrande's storage unit “is configured to store both the first A/V stream 1504 and the supplemental content 1506.” Pet. 42 (quoting Ex. 1006, 18:18–20; citing Ex. 1002 ¶ 251).

Petitioner notes Russ similarly teaches “[a] processor and a tuner system . . . may be included to extract channels from the received downstream broadband signals.” Pet. 42–43 (quoting Ex. 1008 ¶ 20; citing Ex. 1002 ¶ 252). Petitioner argues that a “POSA would have understood that recording multiple video programs airing on various channels was a well-known practice and this limitation is inherently present in Casagrande or rendered obvious by Russ.” Pet. 43 (citing Ex. 1002 ¶ 253).

Petitioner notes that Miller explains it was “desirable to access multiple program content streams concurrently.” Pet. 43 (quoting Ex. 1009 ¶ 31; citing Ex. 1002 ¶ 254). Petitioner notes Miller explains that “a user may desire to view a first program and record a second program that are being communicated concurrently by a program distributor 106 to a receiving device 118.” Pet. 43 (quoting Ex. 1009 ¶ 31; citing Ex. 1002 ¶ 254). Petitioner notes Miller discloses “the receiving device 118 may include at least two tuners, such that the first tuner can . . . receive a first carrier signal . . . and the second tuner can . . . receive a second carrier signal that carries a program content stream corresponding to the second program.” Pet. 43 (quoting Ex. 1009 ¶ 31; citing Ex. 1002 ¶ 254). Petitioner thus concludes: “a POSA would understand that the STB’s memory could store and/or output at least two programs simultaneously.” Pet. 43 (citing Ex. 1002 ¶ 254).

Patent Owner responds: “The combination of *Casagrande*, *Russ*, and *Miller* fails to render obvious independent claims 1, 11, and 18, therefore, that combination fails to render obvious dependent claims 2–10, 12–17, and 19–20 for at least the same reasons.” PO Resp. 29 (citing Ex. 2008 ¶ 85).

Patent Owner’s expert, Dr. Freedman, does not add anything further

regarding the dependent claims, as considered under Ground 1, as noted above. Ex. 2008 ¶¶ 36–37.

In reply, regarding all the claims dependent from either independent claim 1, independent claim 11, or independent claim 18, Petitioner contends: “PO’s Response provides no support from the ’122 Patent for this proposition and fails to explain any deficiencies in Petitioner’s or Dr. Jeffay’s analyses of the remaining challenged claims.” Reply 16.

Regarding claim 17, we credit Dr. Jeffay’s testimony for the same reasons articulated in paragraphs 249–255 of the declaration. Ex. 1002 ¶¶ 249–255.

For the reasons explained by Petitioner above, we find Petitioner shows by a preponderance of the evidence that dependent claim 17 is unpatentable as obvious over the collective teachings and suggestions of Casagrande, Russ, and Miller.

r. Independent Claim 18

Petitioner advances essentially the same evidence and arguments for independent claims 1, 11, and 18. Pet. 14. *See* Claim 11, Ex. 1001, 14:58–16:10.

Patent Owner responds:

The Petition does not provide independent analysis for independent claims 11 or 18. *See* Pet., pp. 14-33. Instead, it contends that the same disclosures in *Casagrande*, *Russ*, and *Miller* are relevant to each of the independent claims. *See id.* As a result, the Petition fails to show that the combination of *Casagrande*, *Russ*, and *Miller* renders obvious claims 11 and 18 for the same reasons as claim 1. *See supra* Section IV.A.1; Ex. 2008, ¶84.

PO Resp. 28.

Regarding claim 18, we credit Dr. Jeffay’s testimony and the other

evidence of record for the same reasons discussed above regarding independent claims 1 and 11.

Accordingly, we find Petitioner has persuasively shown that the collective teachings and suggestions of *Casagrande*, *Russ*, and *Miller* render independent claim 18 obvious under Ground 1.

s. Dependent Claim 19

Claim 19 recites: “The system of claim 18, wherein said third command further results in said first tuner being tuned to a particular frequency to receive said data on said plurality of video programs, said particular frequency being provided by a content provider and stored on said DVR.” Ex. 1001, 16:11–16.

Petitioner concludes that “[c]laim 19 is obvious for the same reasons as claims 1 and 7.” Pet. 43 (citing Ex. 1002 ¶¶ 270–71).

Patent Owner responds: “The combination of *Casagrande*, *Russ*, and *Miller* fails to render obvious independent claims 1, 11, and 18, therefore, that combination fails to render obvious dependent claims 2–10, 12–17, and 19–20 for at least the same reasons.” PO Resp. 29 (citing Ex. 2008 ¶ 85).

Patent Owner’s expert, Dr. Freedman, does not add anything further regarding the dependent claims, as considered under Ground 1, as noted above. Ex. 2008 ¶¶ 36–37.

In reply regarding all the claims dependent from either independent claim 1, independent claim 11, or independent claim 18, Petitioner contends: “PO’s Response provides no support from the ’122 Patent for this proposition and fails to explain any deficiencies in Petitioner’s or Dr. Jeffay’s analyses of the remaining challenged claims.” Reply 16.

Regarding claim 19, we credit Dr. Jeffay’s testimony for the same

reasons discussed above regarding claims 1 and 7.

For the reasons explained by Petitioner above, we find Petitioner shows by a preponderance of the evidence that dependent claim 19 is unpatentable as obvious over the collective teachings and suggestions of Casagrande, Russ, and Miller.

t. Dependent Claim 20

Claim 20 recites:

The system of claim 18, wherein said second portion comprises at least one commercial and said data on said plurality of video programs is packetized, with individual packets being linked at least indirectly to individual ones of said plurality of video programs and to individual channels associated with content owners thereof.

Ex. 1001, 16:17–22.

Petitioner contends that claim 20 would have been obvious for the same reasons as claim 18. Pet. 44 (citing Ex. 1002 ¶ 273). Petitioner notes Miller also discloses that “[p]rogram content portions . . . comprise . . . packets that contain compressed and/or encrypted video, audio, and/or other data.” Pet. 44 (quoting Ex. 1009 ¶ 29; citing Ex. 1002 ¶ 278).

Patent Owner responds: “The combination of *Casagrande*, *Russ*, and *Miller* fails to render obvious independent claims 1, 11, and 18, therefore, that combination fails to render obvious dependent claims 2-10, 12-17, and 19-20 for at least the same reasons.” PO Resp. 29 (citing Ex. 2008 ¶ 85).

Patent Owner’s expert, Dr. Freedman, does not add anything further regarding the dependent claims, as considered under Ground 1, as noted above. Ex. 2008 ¶¶ 36–37.

In reply regarding all the claims dependent from either independent claim 1, independent claim 11, or independent claim 18, Petitioner contends:

“PO’s Response provides no support from the ’122 Patent for this proposition and fails to explain any deficiencies in Petitioner’s or Dr. Jeffay’s analyses of the remaining challenged claims.” Reply 16.

Regarding claim 20, we credit Dr. Jeffay’s testimony and the other evidence of record for the same reasons discussed above regarding claim 18.

For the reasons explained by Petitioner above, we find Petitioner shows by a preponderance of the evidence that dependent claim 20 is unpatentable as obvious over the collective teachings and suggestions of Casagrande, Russ, and Miller.

E. Ground 2 – Asserted Obviousness over Dow

We need not reach Ground 2 over Dow, because we have determined that claims 1, 3–5, 7–11, 13–16, 18, and 19 are unpatentable on the basis of Ground 1 for the reasons discussed *supra*. See *SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1359 (2018); see also *Boston Sci. Scimed, Inc. v. Cook Grp. Inc.*, 809 F. App’x 984, 990 (Fed. Cir. 2020).

F. Ground 3, Asserted Obviousness over Dow, Russ, and Miller

We need not reach Ground 3, because we have determined that claims 1–20 are unpatentable on the basis of Ground 1 for the reasons discussed *supra*. See *SAS*, 138 S. Ct. at 1359; see also *Boston Sci.*, 809 F. App’x at 990.

III. CONCLUSION¹³

The table below summarizes our conclusions as to the challenged claims:

Claim(s)	35 U.S.C. §	Reference(s)/ Basis	Claim(s) Shown Unpatentable	Claim(s) Not Shown Unpatentable
1–20	103(a)	Casagrande, Russ, Miller	1–20	
1, 3–5, 7–11, 13–16, 18, 19	102(b)	Dow ¹⁴		
1–20	103(a)	Dow, Russ, Miller ¹⁵		
Overall Outcome			1–20	

IV. ORDER

Accordingly, it is

ORDERED that, based on a preponderance of the evidence, claims 1–20 of U.S. Patent No. 9,538,122 B2 have been shown to be unpatentable; and

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).

¹⁴ Ground 2 over Dow was not reached.

¹⁵ Ground 3 over Dow, Russ, and Miller was not reached.

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

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