UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MOTOROLA SOLUTIONS, INC.,
Petitioner

v.

STELLAR, LLC,
Patent Owner

Case: IPR2024-01205
U.S. Patent No. 7,593,034

PATENT OWNER'S PRELIMINARY RESPONSE

Mail Stop PATENT BOARD
Patent Trial and Appeal Board
U.S. Patent and Trademark Office
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Submitted Electronically via PTAB P-TACTS

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2004	Motorola's Preliminary Invalidity Contentions
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Pursuant to 35 U.S.C. § 313 and 37 C.F.R. § 42.107, Patent Owner Stellar, LLC ("Patent Owner") submits this Preliminary Response to Petitioner Motorola Solutions, Inc.'s ("Petitioner") Petition for *Inter Partes* Review, challenging claims 1-20 of U.S. Patent No. 7,593,034 (the "'034 Patent"). As detailed herein, the Board should either exercise its discretion to deny institution or deny institution because Petitioner has failed to demonstrate a reasonable likelihood that it will prevail on any challenged claim.

I. INTRODUCTION

A. STELLAR, LLC

Patent Owner, Stellar, LLC, is majority owned by Mr. Paul DeKeyser, the inventor of the '034 patent. Mr. DeKeyser is an innovator on several issued patents and is highly experienced in the field of digital video recording, founding his first company in the digital-video recording arts in 1985. Mr. DeKeyser has received many industry awards and worked for many prominent clients, including NASA, Sandia Labs, PIXAR, Lockheed, and the NHL. Mr. DeKeyser founded Stellar in 2012.

The patents in the Stellar portfolio sprung from Mr. DeKeyser's pioneering efforts in the areas of mobile and/or wearable video recording technology. Prior to his inventions, saving the relevant video recordings on a mobile device typically required that recorded data be manually saved or deleted when the device reached

capacity. When the device reached the end of storage capacity in such a system, no additional data could be recorded until the previously recorded data was transferred to an external medium or new/additional memory was added to the device. The other alternative was to utilize a circular buffer, which continually loops around to overwrite the next oldest data on the buffer, automatically erasing data that may have been desired for preservation.

B. SUMMARY OF PRELIMINARY RESPONSE

Petitioner waited until less than one month before its statutory bar to file this Petition. Since the filing of the Complaint in the underlying litigation, the parties have gone through the claim construction process, have conducted nearly a dozen depositions, have served expert reports, and are less than four months away from the district court's trial date—which, notably, the Court recently set. By the time of an institution decision in February 2025, the parties will have invested substantial effort and resources in fact and expert discovery, dispositive motions, and will be mere weeks away from trial. A district court stay is essentially out of the question given the stage of the case. The facts here warrant the Board exercising discretion to deny institution under 35 U.S.C. § 314(a).

In addition, the Petition is flawed on the merits and does not warrant institution. Specifically, the primary references relied upon by Petitioner (Yerazunis and Ely) fail to disclose at least the elements of "designating a segment of the circular

buffer as a write-protected portion" and the use of "files" in the circular buffer as required by Independent Claim 1 and their equivalents in Independent Claim 12. Additionally, Petitioner's asserted combination of Yerazunis and/or Ely with Fiore fails to disclose these elements. Accordingly, Petitioner has failed to meet its burden of establishing invalidity of any claims that depend from the independent claims of the '034 patent.

Given these fatal flaws in each ground, as well as the ever-advancing stage of the district court case, the Board should deny institution, whether on the merits or through exercising its discretion under § 314(a).

II. OVERVIEW OF THE '034 PATENT

Filed on Nov. 10, 2008, the USPTO issued on Sep. 22, 2009, U.S. Patent No. 7,593,034 (the "'034 Patent"), entitled "LOOP RECORDING WITH BOOK MARKING." The '034 Patent lists Paul DeKeyser, as its inventor, is a continuation-in-part of U.S. patent application Ser. No. 11/770,920 (the '540 Patent), filed Jun. 29, 2007, which further claims the benefit of U.S. provisional patent 60/824,097, filed Aug. 31, 2006, and is a continuation-in-part of U.S. patent application Ser. No. 11/846,217 (the '752 Patent), filed Aug. 28, 2007, which claims the benefit of U.S. provisional patent 60/824,095, filed Aug. 31, 2006. The '034 Patent is currently assigned to Stellar LLC, an entity in which Mr. DeKeyser owns a majority stake.

The ‘034 Patent has one independent apparatus claim (claim 1) with 10 dependent apparatus claims, and 1 independent method claim (claim 12) with 8 dependent method claims.

III. CLAIM CONSTRUCTION

Claims in a post-grant review are construed using the same claim construction standard as in a civil action. 37 C.F.R. § 42.100(b). Under this standard, claim terms are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art (“POSITA”) at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc). The POSITA is deemed to read claim terms in the context of the entire patent, including the specification and prosecution history. *Id. at* 1313-1316. Courts depart from the plain and ordinary meaning in only two instances: (1) when a patentee acts as its own lexicographer, and (2) when the patentee disavows the full scope of the claim term in the specification or during prosecution. *Hill-Rom Servs. v. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir. 2014).

Petitioner asserts that the term “file” as used in the ’034 patent should be given its plain and ordinary meaning as of June 2007, which it asserts to be “an identifiable collection of data.” (Petition at 9-10.) As explained in detail below, Petitioner’s vague and unduly broad definition of “file” is not only contradicted by the

prosecution history,[1] but also the extrinsic evidence it relies upon. Accordingly, Patent Owner reserves the right to present claim construction arguments if trial is instituted.

IV. THE BOARD SHOULD EXERCISE ITS DISCRETION UNDER 35 U.S.C. § 314(A) TO DENY INSTITUTION

The Board should exercise its discretion under 35 U.S.C. § 314(a) to deny institution here in view of the upcoming March 2025 district court trial date, which will occur ***ten months*** before the deadline for a final written decision (FWD) here. All six factors outlined in *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15 at 7-8 (May 13, 2020) support discretionary denial.

A. LEGAL STANDARDS

In exercising discretion under § 314(a) to deny institution, the Board may consider "events in other proceedings related to the same patent, either at the Office, in district courts, or the ITC." Consolidated Trial Practice Guide, November 2019, at 58. The factors the Board considers in determining whether to exercise its discretion are: (1) whether the court granted a stay or evidence exists

1 Applicant successfully distinguished over prior art cited in an Office Action rejection by pointing to the claimed storage of a "second distinct [event] file in the circular buffer," because the mechanism of "storing captured data in a circular buffer as files facilitates exchange of data with other remote device [*sic*] without requiring post processing or finalization of the data." (Ex. 1013 at 285-286.) This demonstrates that Applicant used "file" in a manner that is more specific than merely "an identifiable collection of data."

that a stay may be granted; (2) proximity of the court's trial date to the Board's projected deadline for a FWD; (3) investment in the parallel proceeding by the court and parties; (4) overlap between issues raised in the petition and the parallel proceeding; (5) whether the petitioner and the defendant in the parallel proceeding are the same party; and (6) other circumstances that impact the Board's discretion, including the merits. *Fintiv*, IPR2020-00019, Paper 15 at 7-8.

B. BACKGROUND ON DISTRICT COURT LITIGATION

Patent Owner filed its complaint against Petitioner on August 21, 2023 in the Eastern District of Texas and served Petitioner with the Complaint on August 22, 2023. Exs. 2001, 2002. The Complaint accuses Petitioner of infringing the '034 Patent, as well as U.S. Patent Nos. 8,301,540, 8,692,882, 8,928,752, 9,485,471, 9,912,914, 10,523,901, and 10,965,910 (which Petitioner challenges in IPR2024-1206, -1207, -1208, -1284, -1285, -1313, and -1314 respectively).

Patent Owner served its Preliminary Infringement Contentions (PICs) on January 16, 2024 and First Amended PICs on February 7, 2024, at the request of Motorola. A motion for leave to amend is pending to allow service of the Second Amended PICs attached to that motion. Ex. 2003. Petitioner served its Preliminary Invalidity Contentions on February 27, 2024. Ex. 2004. The Court entered its Scheduling Order on January 12, 2024. Under the currently operative scheduling order, opening expert reports were served on October 16, 2024, rebuttal expert

reports were served on November 6, 2024, and discovery will close on December 6, 2024. Ex. 2005. The Court recently ordered a March 12, 2025 trial date. Ex. 2006.

Patent Owner filed its opening *Markman* brief on May 17, 2024, Petitioner filed its responsive brief on May 31, 2024, and Patent Owner filed its reply brief on June 7, 2024. Ex. 2007. The Court conducted the *Markman* hearing on August 28, 2024, prior to which the Court provided preliminary constructions of the disputed claim terms. Ex. 2008.

Patent Owner and Petitioner made their Initial Disclosures on February 22, 2024, which Petitioner has since twice supplemented. The court issued a Protective Order (which was extensively negotiated by the parties) on January 24, 2024. Ex. 2009. The parties have responded to multiple sets of interrogatories from the opposing party, and to date have produced a combined total of nearly 42,000 pages of documents.

On February 27, 2024, Petitioner served nearly 3,000 pages of invalidity contentions, alleging that the asserted claims of the ’034 Patent (and the other asserted patents) are invalid under 35 U.S.C. § 103 in view of various combinations of references. Ex. 2004. In addition, Petitioner alleged that the asserted claims of the ’034 Patent are invalid under § 112 for lack of enablement and written description. *Id.* at 267-283. Petitioner also alleges invalidity in view of several pieces of alleged system prior art. *See, e.g.*, *id.* at 11-53.

Petitioner has also served third-party subpoenas relating to this alleged prior art, seeking extensive document production and depositions. Ex. 2010. Petitioner has taken the depositions of three third party witnesses, with a fourth scheduled in early December. Petitioner has also deposed Mr. DeKeyzer and Patent Owner.

Petitioner also served a 1,000-plus page invalidity expert report on October 16, 2024, in which Petitioner alleges, *inter alia*, the same invalidity theories as in its Petition. Petitioner has also served three additional expert reports (on alleged non-infringing alternatives, non-infringement, and damages), and Patent Owner has served three expert reports (on infringement, damages, and validity). Expert depositions have been scheduled and will be completed by December 6, 2024. Petitioner has already filed two *Daubert* motions that the parties are briefing and that the Court will need to decide.

Petitioner waited over eleven months after Patent Owner filed its Complaint (and more than six months after receiving Patent Owner's Infringement Contentions) to finally file this Petition on July 22, 2024. Petitioner does not explain this delay. The institution decision is not expected until February 16, 2024, and a FWD is not expected until February 16, 2025, just three weeks prior to the March 10, 2024 start of trial in the district court. By that time, the parties will have finished all discovery, Thus, the FWD is not due until eleven months after the district court trial date—a date the Court set after the Petition was filed.

C. FACTOR 1: A STAY AT THE DISTRICT COURT IS VERY UNLIKELY

Petitioner has not sought a stay in the district court, and Patent Owner has no intention of seeking or consenting to one. Moreover, even if Petitioner were to seek a stay, that motion would almost certainly be denied, as Judge Jordan has not, to Patent Owner's knowledge, ever granted an opposed motion to stay proceedings pending an IPR. Moreover, other judges in the Eastern District of Texas have routinely denied motions to stay pending IPR where the party seeking the stay does not request it until a late stage, as is the case here. *See, e.g.*, *Resonant Sys., Inc. v. Sony Group Corp.,* No. 2:22-cv-00424-JRG, Dkt. 84 (E.D. Tex. July 9, 2024) (denying stay when defendant delayed filing IPR petitions until 10 months after service of complaint and where IPRs would be decided after district court trial); *Pantech Corp. v. LG Elecs. Inc.*, No. 5:22-cv-113-RWS-JBB, Dkt. 341 (June 10, 2024) (denying stay when *Markman* hearing had already been held and dispositive motion deadline had passed); *General Access Sols. V. Cellco P'ship*, No. 2:22-cv-394-JRG, Dkt. 225 (May 22, 2024) (denying stay where parties had already exchanged opening expert reports, trial was five months away, and FWDs were not due until six months after trial), *DigitalDoors, Inc. v. Int'l Bus. Machines Corp.*, No. 2:22-cv-457-JRG, Dkt. 41 (July 23, 2023) (denying stay when parties had exchanged contentions and discovery had begun), *MyPort, Inc. v. Samsung Elecs. Co.*, No. 2:22-cv-114-JRG, Dkt. 73 (June 12, 2023) (denying stay when depositions had

already been taken and deadline for FWDs was over two months after trial). Here, the district court has already held a *Markman* hearing, the parties have served expert reports, and trial is less than four months away. By the expected date of an institution decision, trial will be only three weeks away. Therefore, it is extremely unlikely that the district court case will be stayed because of this proceeding.

Although the Board has, in the past, declined to infer how a district court would rule on a motion to stay, the facts here are inescapable. Not only has Petitioner not even filed a motion to stay, but Judge Jordan has never granted an opposed motion to stay to the knowledge of Patent Owner, and nothing suggests he would here. Based on the schedule outlined above, an institution decision date of February 16, 2024 (which is presumably the earliest Petitioner would seek a stay) occurs during a sufficiently advanced stage in the litigation that any hypothetical motion after that point would almost certainly be denied. Therefore, because a stay is extremely unlikely, Factor 1 weighs strongly in favor of discretionary denial.

D. FACTOR 2: THE DISTRICT COURT'S TRIAL DATE IS ELEVEN MONTHS BEFORE THE EXPECTED FINAL WRITTEN DECISION DATE

The precedential *Fintiv* decision, IPR2020-00019 at Paper 11, in discussing the earlier *NHK* decision, expressly noted that:

> [U]nder § 314(a) the Board considered the fact that the parallel district court proceeding was scheduled to finish before the Board reached a final decision as a factor favoring denial. The Board found that the earlier district court trial date presented efficiency considerations that

> provided an additional basis, separate from the independent concerns under 35 U.S.C. § 325(d), for denying institution. Thus, NHK applies to the situation where the district court has set a trial date to occur earlier than the Board's deadline to issue a final written decision in an instituted proceeding.

Fintiv, IPR2020-00019, Paper 11 at 3. The rationale for discretionary denial in *NHK* also applies here, where the trial date is scheduled to occur eleven months before the expected decision date. This earlier trial date presents efficiency considerations that are an independent basis for the Board to discretionarily deny institution. In the later *Fintiv* decision, IPR2020-00019, Paper 15, the Board expressly found that even a trial occurring two months before the expected FWD favored discretionary denial. IPR2020-00019, Paper 15 at 13. A trial date over eleven months before the expected FWD favors discretionary denial, even under the Director's current guidance. *See, e.g.*, *Pharaoh Energy Servs. v. Flex-Chem Holding Co.*, IPR2024-00822, Paper 6 at 10 (Sept. 20, 2024) (denying institution of IPR when district court trial was scheduled for eight months before FWD deadline); *T-Mobile USA, Inc. v. Wireless Alliance, LLC*, IPR2024-00607, Paper No. 16 at 10 (Sept. 10, 2024) (denying institution of IPR when district court trial was scheduled for ten months before FWD deadline); *T-Mobile USA, Inc. v. Cobblestone Wireless, LLC*, IPR2024-00136, Paper No. 18 at 15 (June 5, 2024) (denying institution of IPR when district court trial date was eight months before FWD deadline); *10X Genomics v. Pres. And Fellows of Harvard College*, IPR2023-01299, Paper No. 15 at 17 (Mar. 7, 2024) (denying

institution of IPR when district court trial date was up to five months before FWD deadline); *Samsung Elecs. Co. v. Mojo Mobility Inc.*, IPR2023-01098, Paper No. 11 at 8 (Feb. 9, 2024) (denying institution of IPR when district court trial date was six months before FWD deadline); *Zhuhai Cosmx Battery Co., Ltd. v. Ningde Amperex Tech. Ltd.*, IPR2023-00587, Paper 12 (Sept. 22, 2023) (denying institution of IPR when district court trial date was eight months before FWD deadline).

Thus, because the district court's trial date is over eleven months before the anticipated FWD date here, Factor 2 heavily favors discretionary denial.

E. FACTOR 3: BOTH PARTIES AND THE COURT HAVE INVESTED SUBSTANTIAL EFFORT INTO THIS CASE AND WILL INVEST EVEN MORE BEFORE AN INSTITUTION DECISION

Petitioner cannot discount the investment the district court and the parties have already made in this dispute (and will make before the expected institution decision date). Patent Owner has invested significant time and resources in preparing its Infringement Contentions; conducting and reviewing discovery; going through the *Markman* briefing/hearing process; preparing expert reports; and conducting depositions of Petitioner's and third-party witnesses. Patent Owner's Infringement Contentions in this case span over 850 pages of claim charts demonstrating Petitioner's infringement of 14 claims across eight asserted patents. Patent Owner has also served opening and rebuttal expert reports. By the time of a

decision on whether to institute, Patent Owner will have expended even more effort taking expert depositions and preparing for a trial that will be mere weeks away.

The parties' investment of time and resources exploring overlapping validity issues trace back to Petitioner's service of its Invalidity Contentions and continue today on validity-related expert discovery. Petitioner's Invalidity Contentions identify 115+ alleged patent prior art, printed publication, and system art references and include 45 claim charts, including 16 for the patent and patent application references relied on in its Petition. Ex. 2004. Petitioner has served third-party subpoenas related to alleged system prior art (Ex. 2010), conducted several depositions with several more scheduled within the next few weeks, filed eight IPR petitions, has served an invalidity expert report on the which exceeded 1,000 pages (along with other two other opening and two rebuttal expert reports). Petitioner's expert report on validity repeats all of the assertions in this Petition. Petitioner has likewise invested substantial time in providing Patent Owner with source code, technical documents, and financial documents.

The district court also has invested substantial resources in this case, including appointing a technical advisor, considering extensive *Markman* briefing (including an expert declaration from Petitioner and deposition thereof), conducting a *Markman* hearing and issuing preliminary *Markman* rulings on sixteen terms. Ex. 2011. The district court will already have to decide two *Daubert* motions that Petitioner has

filed, in addition to any dispositive motions that the parties file next month—and, Patent Owner expects (given the March 2025 trial date) that some or all of those motions will be decided by the time the Board issues its institution decision.

The parties and the court will continue to invest more effort and resources before an institution decision. By that time, fact and expert discovery will have closed, dispositive motions will be fully briefed, and the parties will be in the process of exchanging pretrial disclosures, with trial only a few weeks away. Of course, significant work remains to be done for trial in the underlying case, but that alone does not justify minimizing the investment the district court and the parties have made.

The amount of investment that has occurred in this case is similar to other cases in which the Board has found this factor weighed substantially in favor of denying institution. *See, e.g.*, *Pharaoh Energy Servs.*, Paper 6 at 11 (Sept. 20, 2024) (denying institution of IPR when district court case had proceeded through fact and expert discovery); *T-Mobile v. Wireless Alliance*, IPR2024-00607, Paper No. 16 at 11-12 (Sept. 10, 2024) (denying institution of IPR when district court case had proceeded through *Markman* hearing, the parties had exchanged expert reports, and were in the midst of pretrial disclosures at the time of the institution decision); *T-Mobile v. Cobblestone Wireless*, Paper No. 18 at 17 (June 5, 2024) (denying institution of IPR when district court case had proceeded through *Markman* hearing

and exchange of expert reports); *10X Genomics*, Paper No. 15 at 18 (Mar. 7, 2024) (denying institution of IPR when district court case had proceeded through *Markman* hearing and parties had exchanged contentions and completed substantial fact discovery); *Samsung Elecs.*, Paper No. 11 at 8-9 (Feb. 9, 2024) (denying institution of IPR when district court case had proceeded through fact discovery and the *Markman* hearing); *Zhuhai Cosmx Battery*, Paper 12 (Sept. 22, 2023) (denying institution of IPR when district court trial date was eight months before FWD deadline).

Therefore, Factor 3 also favors the Board exercising discretion to deny institution.

F. FACTOR 4: OVERLAP OF ISSUES RAISED IN THE PETITION AND DISTRICT COURT CASE

The references relied on in the Petition substantially overlap with those in its Invalidity Contentions and the arguments are redundant of the opinions in its opening expert report. Specifically, Petitioner's combinations of Yerazunis and Fiore in further view of Lewellen are the same as those identified in Dr. Sarhan's opening expert report in the underlying litigation—and Petitioner relies on the same expert in the underlying litigation. The Petition offers no explanation for this overlap or any means by which Petitioner intends to avoid this overlap.[2]

[2] A week before the filing date of this preliminary response, Petitioner generally suggested a stipulation, but the contours of it are unclear. For example, Petitioner

This factor thus favors denying institution as well.

G. FACTOR 5: PETITIONER AND ONE DEFENDANT IN THE DISTRICT COURT CASE ARE THE SAME PARTY

"Because the petitioner and the defendant in the parallel proceeding are the same party, this factor weighs in favor of discretionary denial." *Fintiv*, IPR2020-00019, Paper 15 at 15.

Petitioner does not dispute that it is a defendant in the district court litigation. The only additional defendant in the underlying litigation is WatchGuard Video, Inc., a company Petitioner acquired in July 2019. Ex. 2013.

Factor 5 therefore favors discretionary denial of institution.

H. FACTOR 6: FATAL FLAWS IN THE PETITION FAVOR DISCRETIONARY DENIAL

As the Board reiterated in its *Fintiv* decision, "a balanced assessment of factors may include consideration of the merits." *Fintiv*, Paper 15 at 15. In addition, under the Director's June 21, 2022 Guidance Memorandum, because the five factors above favor discretionary denial, the Board must consider whether the Petition "presents a compelling unpatentability challenge." *Commscope Techs. LLC v. Dali Wireless, Inc.*, IPR2022-01242, Paper 23 (Feb. 27, 2023). As discussed *infra*, the

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has not committed as to which specific invalidity theories it will not pursue if the Board institutes trial here. Also, because the Board's institution decision is due well after the district court's December 2024 deadline for filing dispositive motions, Petitioner may have to burden the Court with eleventh-hour motion practice on estoppel if the Board institutes trial—a result of Patent Owner's delay.

merits of the Petition are fatally flawed, as (i) Petitioner has failed to show any valid motivation to combine any of its primary and secondary references, and (ii) Petitioner has failed to show that its proposed combinations teach every element of the challenged claims.

The Board has found this factor favors discretionary denial where petitioners fail to provide valid motivations to combine. *See, e.g.*, *Nine Energy Serv. Inc. v. NCS Multistage, Inc.*, IPR2020-01615, Paper 18 at 14-15 (Mar. 24, 2021). As discussed *infra*, Petitioner has failed to show any valid motivation to combine any of its primary and secondary references.

In addition, the Board has found this factor to favor exercising discretion to deny institution where a patent owner identifies flaws in the petitioner's mapping of reference(s) to the claim elements. *Verizon*, IPR2020-01278, Paper 12 at 15; *Fintiv*, IPR2020-00019, Paper 11 at 15 ("[I]f the merits of the grounds raised in the petition are a closer call, then that fact has favored denying institution when other factors favoring denial are present."). As discussed *infra*, Petitioner has failed to show that its proposed combinations meet several claim elements.

Given these flaws, Factor 6 favors discretionary denial.

I. CONCLUSION REGARDING DISCRETIONARY DENIAL

All six *Fintiv* factors favor discretionary denial, and any mitigation of overlapping issues from a belated and as-yet defined stipulation does not outweigh

the other factors. The Board should therefore exercise its discretion to deny institution under § 314(a).

V. PETITIONER HAS NOT ESTABLISHED A REASONABLE LIKELIHOOD OF PROVING ANY CHALLENGED CLAIM IS INVALID

At least two key claim elements are missing from the references relied upon in the Petition. First, these references fail to disclose: "a protecting facility that responds to a signal to record by *designating* ***a segment*** *of the circular buffer as a* ***write-protected*** *portion*[.]"[3] This concept is sometimes referred to herein as signal-designated '***selective'*** write-protection. Second, these references fail to disclose: "a protecting facility that responds to a signal to record by . . . *indexing the write-protected portion* ***as a second distinct file in the circular buffer***."[4] This concept is sometimes referred to herein as '*storing a signal-designated, write-protected event* ***file in the buffer***'. In addition, the Petition fails to articulate sufficient motivation to combine the asserted references.

A. BACKGROUND ON THE PATENABILITY CHALLENGE

1. Legal Standards

[3] (Ex. 1010, claim 1.) The only other independent claim of the '034 patent is claim 12, which recites this same concept as: "responding to a signal by write-protecting a segment that includes a newly recorded portion of the buffer . . ." (*Id*., claim 12.)

[4] (Ex. 1010, claim 1.) Claim 12 recites this same concept as: "responding to a signal by . . . indexing write protected portions of the buffer as separate, distinct files during the step of recording." (*Id*., claim 12.)

The Board may only institute an IPR where "the information presented in the petition . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." 35 U.S.C. § 314(a); 37 C.F.R. § 42.108(c). Petitioner bears the burden of showing that this statutory threshold has been met. *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) ("[T]he Petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable."); *Liberty Mut. Ins. Co. v. Progressive Cas. Ins. Co.*, CBM2012-00003, Paper 8 at 14-15 (Oct. 25, 2012) (representative) ("[I]t is the responsibility of the Petitioner to clearly articulate [the proposed combination]."); 37 C.F.R. §§ 42.22(a)(2), 42.104(b)(4).

The Petition relies solely on obviousness, and more specifically upon combinations of two or more references for each ground. Section 103 of the Patent Act provides that "[a] patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter ***as a whole*** would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. § 103(a) (emphasis added). If a single element of a claim is absent from the prior art, the claim cannot be considered obvious. *CFMT, Inc. v. YieldUp Int'l Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003) ("[O]bviousness requires a suggestion of all limitations in a claim.") (citing *In re Royka*, 490 F.2d 981, 985 (C.C.P.A. 1974)); *In*

re Rijckaert, 9 F.3d 1531, 1534 (Fed. Cir. 1993) (reversing obviousness rejection where prior art did not teach or suggest all claim limitations); *Garmin Int'l, Inc. v. Patent of Cuozzo Speed Techs. LLC*, Case No. IPR2012-00001, Paper 15 at 15 (Jan. 9, 2013) (refusing to institute an IPR under 35 U.S.C. § 103 where prior art did not disclose all claim limitations).

The conclusion of obviousness based on a combination of references must be supported with explicit analysis of a reason to combine those references. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). The Federal Circuit has stated that such reasons must be more than "mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006); *accord Innogenetics, N.V. v. Abbott Labs.*, 512 F.3d 1363, 1374 (Fed. Cir. 2008) (agreeing with the district court's reasoning that "some kind of motivation must be shown from some source, so that the jury can understand why a person of ordinary skill would have thought of either combining two or more references or modifying one to achieve the patented method"); *LG Elecs., Inc. v. Cellular Commc'ns Equip. LLC*, IPR2016-00197, Paper 7 at 7-11 (April 29, 2016) (faulting a petition's obviousness analysis for lack of sufficient articulated reasons with rational underpinnings for modifying references to achieve particular elements required in the claims).

2. Exemplary Concepts Claimed in the '034 Patent

a. Claim 1 as Exemplary

Claim 1, the first of two independent claims in the'034 patent, is reproduced here with the element numbering used in the Petition:

Pre 1. A surveillance apparatus, comprising:

#1 a camera having an image capturing component that captures images, and a converting component that converts the images into at least one data stream;

#2 a local memory functionally coupled to the camera;

#3 a wireless transmitter functionally coupled to the local memory;

#4 a recording facility that continuously records the data stream into available portions of a circular buffer in the local memory as a first file using a digital video file format;

#5 a protecting facility that responds to a signal to record by designating a segment of the circular buffer as a write-protected portion and by indexing the write-protected portion as a second distinct file in the circular buffer, wherein the segment includes a pre-recorded subset recorded before the signal is received and a post-recorded subset to be recorded after the signal is received; and

#6 a sending facility that uses the transmitter to wirelessly transmit the second file to a remote memory.[5]

b. Teachings of the '034 Patent Regarding *Selective Write-Protection of a Segment*

With respect to element #5 of claim 1 of the '034 patent, the patent teaches that segments of data captured on a circular buffer may be selectively write-protected

[5] (Ex. 1010 at 11:46-67.) Claim 12 is similar to claim 1, except written as "[a] method of processing imaged data from a camera: . . . ." (*Id*. at 12:27-41.)

and 'skipped over' (Ex. 1010, 2:24-26, 7:26-29, 9:20-22), while the circular buffer otherwise loops to overwrite at the location of the oldest non-protected data on the buffer. (*See*, *e.g.*, Ex. 1010, 2:21-24, 5:55-59, 7:34-37.) This looping overwrite and selective write-protection concept is specifically illustrated through Figures 4A to 4H. In describing the concept of selective write-protection within the circular buffer, the '034 patent specification explains the illustrations in these figures as follows:

> FIGS. 4A-4H show an alternative diagram representation of a circular buffer 300 as it is being used.
>
> In FIG. 4A the recording facility (not shown) records data stream "A" into circular buffer 400. The "_" character is used to designate blank memory, or unprotected memory that can be overwritten. The ellipsis ". . ." is used to show that the memory can be very large relative to the number of positions shown in the figure. . . .
>
> In FIG. 4B the protecting facility (not shown) has protected a recent period of data stream "A" as a function of a start signal, shown by the character "|". . . .
>
> The "[" character is used to designate the start of protected memory. Concomitantly, the portion of the data stream prior to the protected portion has once again been marked "_" to show that it is unprotected. . . .
>
> In FIG. 4C the protecting facility has received a "stop" signal some time after receiving the start signal, thereby lengthening the protected portion of the "A" data stream. The stop signal is shown as character "]" . . . .
>
> In FIG. 4D, the system has finished protecting the desired portion of the "A" data stream, and the recording facility continues to store a "B" data stream into circular buffer 400. Of course, the "B" data stream can be contiguous with the "A" data stream, so that differentiation of "A" and "B" streams is merely an artifact of how the data is being stored. . . .

(Ex. 1010, 7:33-8:60.) Figures 4A to 4H are reproduced here:

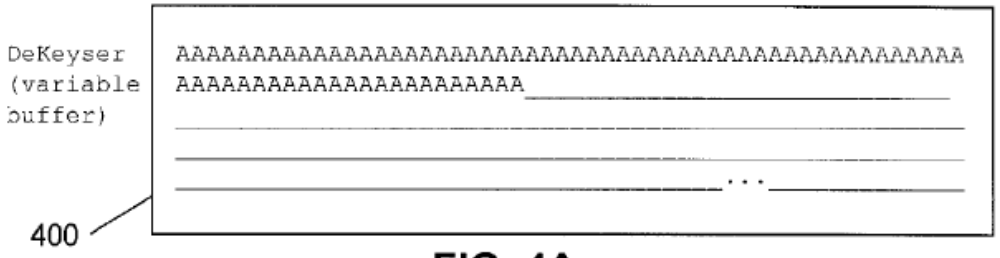


FIG. 4A

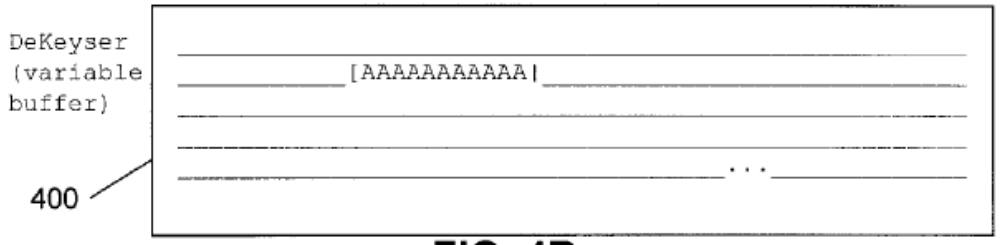


FIG. 4B

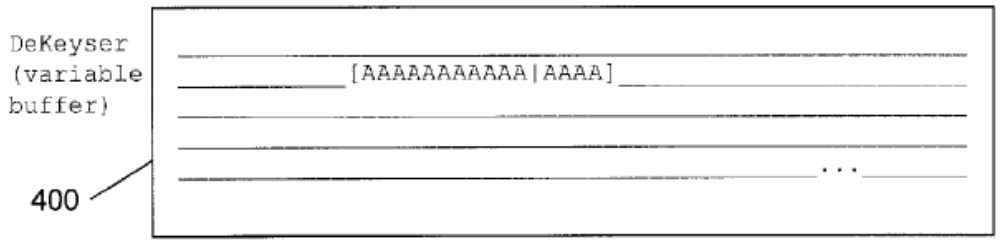


FIG. 4C

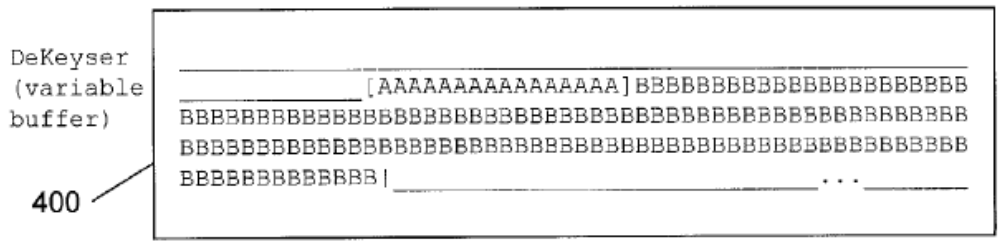


FIG. 4D

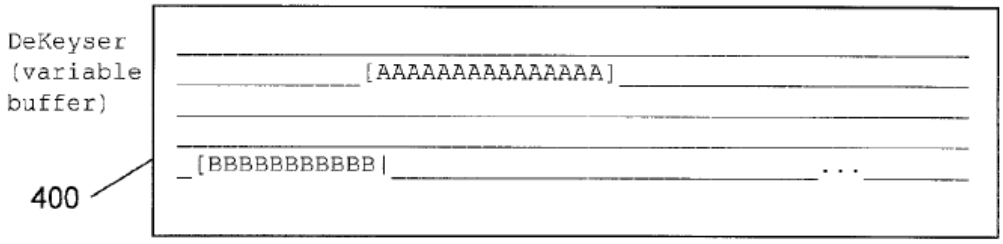


FIG. 4E

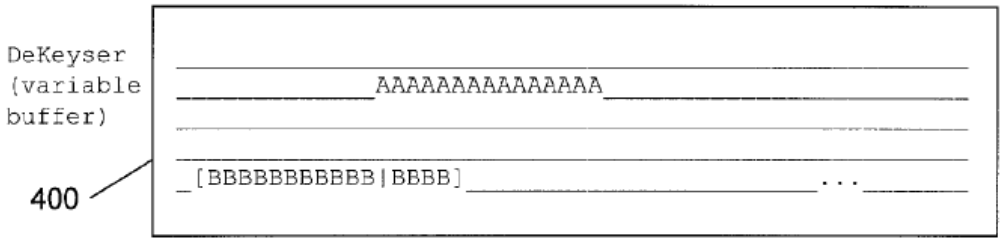


FIG. 4F

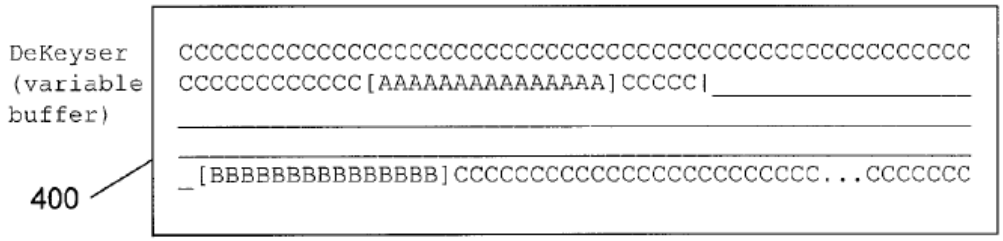


FIG. 4G

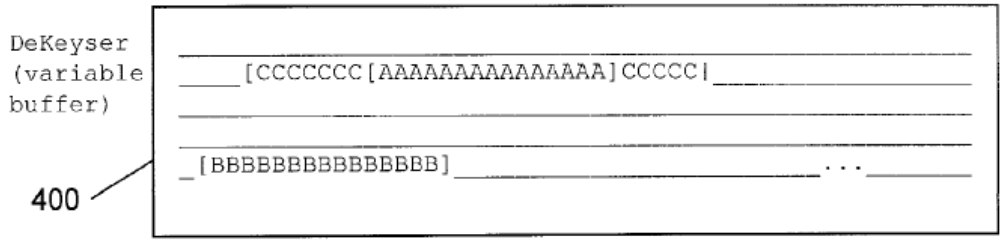


FIG. 4H

(Ex. 1010, FIG. 4A-4H.) The explanation continues:

> In FIG. 4E the system has again received a start signal, and has again protected a fixed or variable historical time period. In FIG. 4F the system has received a stop signal, and has protected the entire desired portion of the "B" data stream.

> In FIG. 4G the system has continued to record data, which is now depicted as data stream "C" because it follows data stream "B". This figure is particularly significant in that recordation of the "C" data stream skips over the protected portion of the "A" data stream. In FIG. 4H the system received another start signal, and has protected a desired portion of the "C" data stream that straddles the protected "A" stream. As shown, the C data stream is saved as a physically discontiguous file.

(Ex. 1010, 9:14-26.)

The foregoing provides context for the requirement, in claims 1 and 12, regarding "write-protect[ing]" a "segment" of the data recorded in the circular buffer in "respon[se] to a signal."

c. Teachings of the '034 Patent Regarding *Storing Data as a 'File' Within the Buffer*

In its 'Summary of the Invention' the '034 patent specification explains the benefits of storing data as a "file" within the circular buffer:

> . . . While the write-protected portions could be electronically indexed using a memory heap or a clustered index, *the write-protected portions are preferably* ***stored as separate files in the memory***. Such files could be stored in physically dis-contiguous parts of the circular buffer. Additionally, the indexing is preferably performed while the recording facility is still recording data into the memory.

(Ex. 1010, 2:45-51.) And further provides:

> . . . It is preferred when the recorder is turned on *the entire circular buffer is treated and stored as a single* ***file***. Thus, if no recording is protected or bookmarked, then *the entire* ***file*** *will be erased* and the recording will start at the beginning of the circular buffer.

(Ex. 1010 at 6:3-7.) And as further detailed below, the prosecution history of the '034 patent evidences that "file" as recited in the claims constitutes a more specific

means for saving data than simply "*an identifiable collection of data*," as the Petition wrongly proposed. (*Compare*, Ex. 1013 at 285-286, *with* Pet. at 10.)

B. THE PETITION FAILS TO ESTABLISH THAT THE CLAIMS OF THE '034 PATENT WOULD HAVE BEEN OBVIOUS OVER YERAZUNIS ALONE OR AS COMBINED WITH FIORE, AS ASSERTED IN ITS GROUNDS 1A THROUGH 1D

Yerazunis fails to teach at least two key requirements of the independent claims of the '034 patent. First, Yerazunis fails to teach selective write-protection within a circular buffer. Second, Yerazunis fails to teach the storing of data corresponding to an event signal as a distinct file within the buffer. The suggested combination of Yerazunis with Fiore fails to remedy either of these deficiencies.

1. Yerazunis Does Not Disclose "*Designating a Segment of the Circular Buffer as a Write-Protected Portion*"

Claim 1 of the '034 patent requires designating only a select ***segment*** of recorded data in the buffer as write-protected. Specifically, claim 1 requires: "a protecting facility that responds to a signal to record by *designating* ***a segment*** of the circular buffer *as a* ***write protected*** *portion*". (Ex. 1010 at 11:57-59.) Yerazunis fails to teach this. Instead, Yerazunis discloses a system whereby the entire buffer (*i.e.*, all data) is preserved in response to a triggering signal by ceasing to record over previously ***used*** (i.e., recorded) portions of the buffer.

Generally, Yerazunis discloses a camera system for use either within a car to capture accidents, or with a gun to capture video surrounding the firing of the gun.

Ex. 1017 at 1:17-27. According to Yerazunis, the inventors aimed to address the problem of recording video in such situations, confined by the limitations of recording such an event, *i.e.*, the size limitations of mounting the camera to the gun, as well as dealing with the shock and vibrations inherent in both setups. *See* Ex. 1017 at 1:32-67, 3:9-19.

Given these environmental limitations, the solution that Yerazunis proposes for the car implementation is a simple 'buffer-record-and-stop' scheme, in which the video data is stored in a circular buffer until a triggering event, at which point the system records a small amount of additional video, and then stops the recording altogether. *See id. at*, *e.g.*, 2:19-25 ("Upon detection of a trigger event, the video recording device records a predetermined number of additional frames and then ceases to record further frame data."); *see also id.*, 8:26-32.

For the gun camera implementation, Yerazunis proposes a slightly more involved solution, in which the system pre-designates portions of the memory for multiple firing events. *See id.*, Abstract ("In the event of a further firing of the gun, an additional portion of the buffer memory is dedicated to preserving the image data associated with [the] subsequent firing incident."); 17:9-15 ("The circular buffer memory may be subdivided evenly to accommodate a predetermined number of firings of the gun and an equal number of frames may be stored within the circular

buffer memory for each firing. Alternatively, a fraction of the circular buffer memory may be devoted to the storage of data associated with the first firing.").

To implement this memory designation scheme, Yerazunis explains that, after the first firing event, "[t]he head and the tail pointers are then reset to allow *continued recording into* ***another portion*** *of the circular buffer memory*." *Id*., 17:56-58. In other words, for firing event #1, the head and tail pointers confine the system to recording to designated portion #1; then, for firing event #2, the head and tail pointers are reset to record data to designated portion #2, and so on. As the above disclosures make clear, there is no "***write-protection***" of a "***segment***" within a circular buffer in Yerazunis. In the in-car 'buffer-record-and-stop' scheme, the entire buffer (not just a segment of it) is saved. And, in the gun implementation, the system uses only unused blocks of memory for each firing event (*i.e.*, no overwriting within the buffer once a trigger signal is detected). In that scenario, the system is not "respond[ing] to a signal to record by designating a segment of the circular buffer as a write-protected portion" (as claims 1 and 12 require), but is instead responding to the signal by recording to one unused portion and then switching (using the pointers) to record in a second unused portion. This is made even more apparent by Yerazunis's disclosure of a "purge button" that, once pressed, "[erases] the contents of the circular buffer and any still images that have been captured." *Id.*, 9:47-51. That is, the entire contents of the buffer are protected and unprotected as a whole.

Yerazunis explains that video data '*preservation'* is a step that occurs ***after***, not as part of, the step of "continu[ing] to record for a brief interval" in response to a trigger signal:

> More specifically, the video recording device 300 includes a sensor, which is responsive to the discharge of the gun 304 to cause the video recording device 300 to continue to record for a brief interval following the discharge of the gun into a designated portion of a memory ***and to then preserve*** video frame information generated before and after the discharge of the weapon by the officer.

(Ex. 1017 at 14:55-61.) Yerazunis's claims also reveal that video image data associated with an event trigger is '*preserved'* by transferring the data to a "separate portion of . . . semiconductor memory" that is "nonvolatile" memory, *i.e.*, not within the initial buffer portion of memory. (See, e.g., Ex. 1017 at 21:11, 21:59-22:5, 22:53-67.)

Finally, Yerazunis fails to disclose "a recording facility that ***continuously*** records the data stream into available portions of a circular buffer in the local memory," which reinforces the necessity of write-protection within the loop of the circular buffer. As noted above, Yerazunis discloses a system where recording ***ceases*** after a predetermined number of additional frames following a triggering event. This cessation of recording after an event is repeated throughout Yerazunis. (*Id*. at 2:23-25, 2:53-55, 4:49-52, 7:62-64, 8:2-7, 8:30-32, 11:27-30, 12:14-17, 12:17-23, 13:5-11, 14:1-7, 14:12-18.). Thus, not only does Yerazunis fail to disclose write-protecting discrete segments within the circular buffer, it fails to disclose a

continuity of recording between events that reinforces the necessity of selective write-protection of event-only data.

While the Petition additionally relies on Fiore for this element, it does so only with respect to indexing, not with respect to "respond[ing] to a signal to record by designating a segment of the circular buffer as a write-protected portion." *See* Pet. at 32-35. Thus, Petitioner's arguments with respect to Fiore do not remedy these deficiencies in Yerazunis.

2. The Combination of Yerazunis and Fiore Does Not Disclose "*File*" Storage in the Buffer

Claims 1 and 12[6] of the '034 patent specify ***file*** storage ***in*** *the buffer*. Specifically, claim 1 requires: (i) "a recording facility that continuously records the data stream into available portions of a circular buffer in the local memory ***as a first file*** *using a* ***digital video file format***;" and (ii) "a protecting facility that responds to a signal to record by … indexing the write-protected portion ***as a second distinct file in the circular buffer***". (Ex. 1010 at 11:53-56, 11:57-60.) Yerazunis fails to teach this. In fact, Yerazunis makes no mention of any "file" at all, let alone as part of the circular buffer or as an output format. Instead, Yerazunis contemplates outputting

[6] The "*transmitting*" step of Claim 12 confirms that storage of the signal-designated data files occurs ***within the circular buffer***: "indexing write protected portions of the buffer ***as separate, distinct files*** during the step of recording; ***and*** wirelessly *transmitting* at least one of ***the distinct files from*** the write-protected portions of ***the circular buffer*** to a remote memory." (Ex. 1010 at 12:37-41.)

as "data", such as by serial data transfer: "[a] serial output channel is provided to permit recorded frame data to be downloaded to a computer for viewing. Alternatively, any appropriate data transfer link and protocol may be employed." (Ex. 1017 at 3:1-4.)

a. No "first file using a digital video file format"

First, Yerazunis fails to teach the claimed concept of recording the stream as ***a first file*** using ***a digital video file format***. Petitioner points to the declaration of Dr. Sarhan to support its assertion that "[a] POSITA would have understood the compressed frame data as 'using a digital video file format.'" (Pet. at 29 (*citing* EX1003, ¶183).) Dr. Sarhan merely parrots this statement but offers no support, nor any further explanation for why a POSITA would have such an understanding. Petitioner's conclusory and unsupported assertion of what a POSITA "understood" does not suffice. *See Innogenetics, N.V. v. Abbott Labs.*, 512 F.3d 1363, 1373 (Fed. Cir. 2008) ("[T]here must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. . . . Nowhere does [the expert] state how or why a [POSITA] would have found the claims . . . obvious in light of some combination of those particular references…."); *see also*, *In re Stepan Co.*, 868 F.3d 1342, 1346 (Fed. Cir. 2017).

There is no actual evidence offered that a POSITA at the time of the invention would have considered compressed frame data to be "a digital video file format." In

fact, Petitioner essentially admits the opposite by conceding that "Yerazunis does not expressly refer to recording the data stream into the circular buffer 'as a file[.]'" (Pet. at 30.) If compressed frame data could be considered a digital video file, Petitioner would not have conceded the absence of an express "*file*" teaching in Yerazunis.

b. No "indexing the write-protected portion as a second distinct file in the circular buffer"

Yerazunis fails to disclose storing a signal-designated, write-protected event file in the buffer. Petitioner wrongly characterizes "Yerazunis's disclosure of storing video data corresponding to particular events 'in a table' for 'later retrieval'" as something that would lead a POSITA to arrive at "file-based recording as one of a finite number of identified solutions for recording video data in Yerazunis, evidencing its obviousness." (Pet. at 30.) Petitioner arrives here by oversimplifying the claimed concept of a "***file***" to mean merely "*an identifiable collection of data*." (Pet. at 9-12.) Petitioner's proposed construction ignores the prosecution history of the '034 patent, wherein Patent Owner explained:

> Amended claim 1 clarifies that the data streams are recorded in a circular buffer *as a first file* using a digital video file format, and a write-protected portion is indexed as a *second distinct file* in the circular buffer. The Applicant has appreciated that *storing captured data* ***in a circular buffer as files*** **facilitates exchange of data with other remote device without requiring post processing or finalization of the data** as is required by known systems, including the cited art. The cited art, Vanman and Hattori both discuss circular buffers. However, neither disclose storing data streams as files *within* the circular buffer,

> especially where a write-protected portion of the buffer is indexed as a second, distinct file from the file representing the data stream. In short, claim l is allowable over Vanman and Hattori, alone or combined, on the grounds that they fail to teach, suggest, or motivate all the elements of claim l.
>
> The Examiner notes that Hattori lacks support for storing protected areas ***as separate files***, and cites passage located at C3/L62 - C4/L 11 as motivation storing write protected regions ***as separate files***. The Applicant respectfully disagrees. One should note in the claimed approach files are stored <u>*within a circular buffer*</u> as opposed to a flat memory space (e.g., HOD, DVD, etc.) that would utilize a traditional file system with which one skilled in the art would be familiar. Traditional file systems are completely unsuitable for use within a circular buffer because they expect bounded extents, among other limitations. *Therefore, having* ***files within a circular buffer*** *of the claimed apparatus would be* ***non-obvious****, especially where a file* (i.e., the second distinct file) *could be created in the middle of another file* (i.e., the first file). The approach disclosed by the Applicant resolves such issues.

(Ex. 1013 at 285-286 (only bolded emphasis added).) Following this response, all rejections (other than provisional rejections based on double patenting) were dropped in view of these distinctions made over the cited prior art, which included the concept of file storage but not the claimed inclusion of a file of signal-designated write-protected data stored ***within*** the circular buffer. (*Id*. at 293-296.)

The intrinsic record further underscores the fallacy of Petitioner's construction of the term "file". First, Patent Owner makes clear that it was not merely introducing the concept of a "***file***" to indicate any "*identifiable collection of data*". Rather, Patent Owner used the term "***file***" to indicate something that would "*facilitate [the] exchange of data*" and eliminate the need for further "*processing*"

of the data. (*Id*. at 285-286.) Next, the forgoing reveals that, "in the claimed approach files are stored ***within*** a circular buffer as opposed" to being stored elsewhere. (*Id*.) Nowhere does Yerazunis (nor Fiore, for that matter) disclose storing a "file" within the circular buffer itself, which Patent Owner specifically asserted to be "non-obvious". (*Id*.) Instead, Petitioner attempts to equate a "*file*" with a Yerazunis disclosure of a "*table*" which can store information associated with firing-event data (Pet. at 30 (*citing* Ex. 1017 at 17:50-56)), but is not itself a unit of containerized data. Not only is a *table* not a *file*, but even here, the disclosure fails to teach storing such a table within the buffer itself. Finally, Petitioner's use of "*identifiable*" to define "*file*" is inconsistent with logic and common understanding. Under Petitioner's overly broad construction, all stored data constitutes a "*file*", because one way to 'identify' data could be based on its location of storage, making all stored (*i.e.*, locatable) data "*identifiable data*". Petitioner's oversimplified definition of "file" is even at odds with its own extrinsic evidence. Petitioner's cited dictionaries show that a file is stored and named as a unit, especially for purposes of input and output, and the file's type indicates a software type needed for proper handling of its contents. (Ex. 1025 at 3 ("[a] collection of related data or program records stored as a unit with a single name."); Ex. 1026 at 3 ("a complete collection of data (as text or a program) treated by a computer as a unit esp. for purposes of input and output."; Ex. 1027 at 3 ("[a] collection of information which is stored as a

unit. Files may be retrieved, modified, stored, deleted, or transferred. Each type of file requires the appropriate software for the proper handling of its contents.").)

3. Petitioner Has Failed to Meet Its Burden of Showing That a POSITA Would Have Been Motivated to Combine Yerazunis with Fiore

Petitioner wrongly states that a POSITA would have been motivated to combine Yerazunis and Fiore to arrive at the inventions of claims 1 and 12. (Pet. at 18.)

Petitioner's expert asserts that Yerazunis and Fiore "describe similar technologies and solve similar problems." (Ex. 1003 at ¶ 169; *see also* Pet. at 18.) First, as Petitioner's expert acknowledges, Yerazunis discloses a "compact video image recording device" for different applications. (Pet. at 12; Ex. 1003 at ¶ 169.) Fiore, by contrast, distinguishes itself from specialized devices by discouraging reliance on "proprietary hardware architectures and internal programming" which Fiore describes as "not readily transferable to event recording and playback devices" and instead directs its application to "a programmable computer such as personal computers, servers, or the like. . . . a computer based implementation of the event recording and playback devices is desirable since such computers provide the flexibility to be adapted for various applications." (Ex. 1009 at ¶ 0009.)

Petitioner further asserts that "[b]ecause Yerazunis and Fiore disclose data recording systems that store data in a circular buffer and preserve data associated

with an event—both before and after an event trigger—a POSITA would have been aware of and motivated to combine the two references." (Pet. at 18; Ex. 1003. at ¶ 169.) As explained above, Yerazunis ***ceases*** to record video data after a predetermined number of frames following a trigger. (Ex. 1017 at 2:53-55.) This concept of stopping the recording is repeated throughout Yerazunis. (*Id*. at 2:53-55, 4:49-52, 7:62-64, 8:2-7, 8:30-32, 11:27-30, 12:14-17, 12:17-23, 13:5-11, 14:1-7, 14:12-18.) Yerazunis's planned '***cessation'*** of circular recording is incompatible with one of the fundamental purposes of Fiore, to avoid "dropped frames" or any scenario where real-time data is not captured and stored, resulting in "the loss of potentially very critical data." (Ex. 1009 at ¶¶ 0012-13.) Even where Yerazunis contemplates capturing "subsequent firing events" after the initial trigger, this subsequent event data "is stored within an ***unused*** portion of the circular buffer memory" and goes on to describe how this unused portion may be rationed in the recording of subsequent firing events "until the buffer memory is ***full***." (Ex. 1017 at 3:28-33; *id*. at 16:66-17:61; *see also* 8:53-55.)

Yerazunis further discloses that recorded data frames will only be stored in buffer memory "***for a short period of time***." (Ex. 1017, Abstract; *see also*, *id*. at 1:56, 3:25-28.) This short amount of data capture—coupled with Yerazunis's teaching to cease recording once the buffer is full—is incompatible with one of the core needs targeted in Fiore, "minimizing the likelihood of dropped frames" and

allowing playback "without interrupting simultaneous recording of new input signal data." (See, *e.g.*, Ex. 1009 at ¶¶ 0016, 0023.)

In addition, Fiore would not be a source to which a POSITA would look when searching for a solution to selectively write-protect segments of continuously recorded data while the data resides in the circular buffer. Fiore does not disclose ***selectively write-protecting*** those individual events time-stamped ***within*** a circular buffer. Fiore discloses a circular buffer operating such that "the oldest signal data . . . is being overwritten by the most recent signal data." (Ex. 1009 at ¶¶ 0047; 0063.) To preserve data, Fiore teaches that individual event data may be transferred to a different memory location. Specifically, Fiore discloses that:

> The extracted data frames are then stored in file system 17 thereby providing a permanent record of the data frames before, during, and after the event prior to the data frames being overwritten in the circular storage buffer 15 by more recent data frames.

(*Id*. at ¶ 0048.) Nowhere does Fiore suggest selectively write-protecting within a circular buffer. Thus, a POSITA would not look to Fiore for guidance on a system to selectively write-protect on a circular buffer.

Yerazunis discloses different data decimation algorithms to save semiconductor buffer space. (*See*, Ex. 1017 at 11:44-13:2, Figures 6-8.) These algorithms limit the amount of frame data preserved. And, as noted above, Yerazunis automatically stops video capture after a predetermined number of frames in response to an event signal. (*See*, *e.g.*, Ex. 1017 at 2:53-55.) These space-saving

technique of Yerazunis are anathema to the teachings of Fiore, which seeks to avoid dropping frames so as not to face "the loss of potentially very critical data." (Ex. 1009 at ¶¶ 0012-13.)

Fiore does not disclose ***selectively write-protecting*** those individual segments of time-stamped event data within a circular buffer. Nor does Fiore disclose creating or storing ***individual event files*** within a circular buffer. In fact, the idea of storing individual event files within temporary storage is expressly discouraged in Fiore's background section. (Ex. 1009 at ¶ 0010 ("Having to retrieve one or more of the plurality of files that are stored in the intermediate storage location, and/or to compile a plurality of files is cumbersome and time consuming.").) Instead, Fiore discloses "a circular storage buffer having ***a*** memory mapped file." (*Id*. at ¶ 0020.) Fiore consistently refers to the memory mapped file as a single file. Fiore further discloses that the "single" memory mapped file is preferably "contiguous" on the disk. (*Id*. at ¶ 0071.). This singular memory mapped file should not be confused with Fiore's disclosure of a plurality of "additional secondary memory mapped files," into which "an event processor . . . ***copies*** a plurality of data frames stored in the circular storage buffer that have time stamps proximate to the time of the event" for storage in an "event database". (*Id*. at ¶ 0022.) Notably, the information stored in Fiore's "event database" is identified as "files", while the information stored in Fiore's buffer is identified as "frames" or "data".

Petitioner appears to conflate Fiore's use of event time-stamps *to create event files* (called "secondary memory mapped files") that are stored in an "event database," with an idea that is nowhere disclosed in Fiore, of indexing "***files within the memory-mapped file***." (Pet. at 18, 31; Ex. 1003 at ¶¶ 171, 187.) Again, the latter is nowhere disclosed in Fiore.

Finally, a POSITA would not have been motivated to combine Yerazunis with Fiore to arrive at a system that creates and stores individual event files on a circular buffer because Fiore seeks to avoid such "multi-tasking" demands on a processor controlling memory access, which contributes to the problem of dropped frames. (*Id*. at ¶ 0013.)

C. THE PETITION FAILS TO ESTABLISH THAT THE CLAIMS OF THE '034 PATENT WOULD HAVE BEEN OBVIOUS OVER ELY ALONE OR AS COMBINED WITH FIORE, AS ASSERTED IN ITS GROUNDS 2A THROUGH 2C

Like Yerazunis, Ely also fails to teach at least two key requirements of the independent claims of the '034 patent. First, Ely fails to teach selective write-protection within a circular buffer. Second, Ely fails to teach the storing of data corresponding to an event signal as a distinct file within the buffer. The suggested combination of Ely with Fiore fails to remedy either of these deficiencies.

1. Ely Does Not Disclose "*Designating a Segment of the Circular Buffer as a Write-Protected Portion*"

As noted above, claim 1 of the '034 patent requires: "a protecting facility that responds to a signal to record by *designating* ***a segment*** of the circular buffer *as a* ***write protected*** *portion*". (Ex. 1010 at 11:57-59.) Ely fails to teach this concept.

Ely discloses continuously recording in a circular buffer by overwriting the next oldest frames, but "***inhibiting***" the overwriting of previously recorded data in response to an event signal. (Ex. 1020 at 2:65-3:16, 4:1-8; *see also*, *id*. at 7:30-36, 11:67-12:19, 14:24-38.) This protection mechanism applies to the entire circular buffer, not a select segment. The concept of ***inhibiting*** overwriting is repeated throughout Ely. (*Id*. at 3:9-21, 4:6-7; 4:24-30; 7:34-38; 12:13-18; 14:32-38.) Inhibiting overwriting in response to an alarm signal was also repeatedly asserted as a basis for distinguishing over prior art during the examination that resulted in the allowance of Ely's claims. (Ex. 2014 at 82-84, 92-93, 99-100, 108-109.) In response to an alarm signal, Ely's ring buffer stops overwriting its oldest data (as a circular buffer would otherwise be configured to do), but instead looks to store new (i.e., "live compressed video") data into a different "*portion of the memory*" in order to preserve previously captured data. (Ex. 1020 at 7:28-38.)

As with Yerazunis, the Ely approach to data preservation by "***inhibiting***" the overwriting of the oldest data in response to an alarm signal is at odds with the claimed requirements of "a protecting facility that responds to a signal to record by *designating* ***a segment*** of the circular buffer *as a* ***write-protected*** *portion*[.]"

The Petition's only suggestion that Ely discloses the concept of write-protecting a "segment" is this assertion:

> A POSITA would have also understood that the segment of the circular buffer to be write-protected must "include[] a newly recorded portion of the buffer" because frame data not "newly recorded" would be overwritten once recording loops back.

(Pet. at 70.) Following this statement, the Petition merely cites a parroting statement from Petitioner's expert (*citing* EX1003, ¶302), and a few lines from Ely that do not describe the granularity of a write-protection operation in the buffer but the contents of "protected" alarm data transmitted to the central station (citing EX1020, 7:48-55, 10:11-15). This statement does not attempt to explain how Ely is write-protecting only a "segment of the circular buffer" (as opposed to 'inhibiting overwriting' for the entire buffer) nor is the phrase "newly recorded" used in claim 1 of the '034 patent. It is a phrase recited only in independent claim 12. The cited paragraph of Petitioner's expert declaration provides no further support, beyond citation to these same lines of Ely, for why a POSITA would have this alleged 'understanding'. Not only do these cited lines from Ely fail to mention "segment", or "newly recorded" data, they fail to support even the notion that only a segment of Ely's ring buffer will be write-protected.

2. No Prior Art Disclosure of the Claim Requirements Regarding "File" Storage in the Buffer

As noted above, claims 1 and 12 of the '034 patent specify ***file*** storage ***in*** *the buffer*. Ely fails to teach the claimed "***file***" requirements. In fact, Ely makes no mention of "*file*". File-based storage of data on a memory buffer would be incompatible with Ely's final goal of storing the data in an analog format as a sequence of frames, because Ely is directed to a "distributed video data storage in video surveillance system" in which the ultimate storage destination is videotape. (Ex. 1020, Abstract, 3:29-36, 4:31-35.) Storage of video data onto videotape means storage in analog format, which is inconsistent with storage of digital data in computer memory "*as a* ***file***," as that term is used in the context of '034 patent per the discussion above. Rather than packaging "as a file" for transmission out of a buffer, Ely contemplates serial data transmission, explaining that data will be "read out" from a storage device buffer for transmission to a central station over "a common data transmission channel[.]" (Ex. 1020 at 3:37-41.)

a. No "first file using a digital video file format"

First, as with Yerazunis, Ely fails to teach the claimed concept of recording the stream as ***a first file*** using ***a digital video file format***. Petitioner again points to the declaration of Dr. Sarhan to support its assertion that "[a] POSITA would have understood the compressed frame data as 'using a digital video file format.'" (Pet. at 66 (*citing* EX1003, ¶273).) Again, Dr. Sarhan merely parrots this statement but

offers no support, nor any further explanation for why a POSITA would have such an understanding. This conclusory and unsupported assertion of what a POSITA "understood" does not suffice. *See Innogenetics*, 512 F.3d at 1373; *see also*, *In re Stepan Co.*, 868 F.3d at 1346.

Again, there is no actual evidence offered that a POSITA at the time of the invention would have considered compressed frame data to be "a digital video file format." And again, Petitioner concedes the opposite by admitting that "Ely never expressly refers to recording the data stream into the circular buffer 'as a file[.]'" (Pet. at 67.) Because compressed frame data is not considered a digital video file, Petitioner conceded the absence of a disclosure of "*file*" in Ely.

b. No "indexing the write-protected portion as a second distinct file in the circular buffer"

Petitioner wrongly asserts that "[a] POSITA would have found it obvious to record the data stream ("alarm data") in Ely's ring buffer 'as a file' based on Ely's disclosure of storing the alarm data for subsequent, selective 'retrieval, display, and permanent recording.'" (Pet. at 67 (citing EX1003, ¶274).) Petitioner arrives here by applying its oversimplified definition of a "***file***". As explained above, Petitioner's proposed construction ignores the prosecution history of the'034 patent, which relied on the claimed "***file***" to indicate something that would "*facilitate [the] exchange of data*" and eliminate the need for further "*processing*" of the data. (Ex. 1013 at 285-286.) Contrary to the prior art, "in the claimed approach files are stored ***within*** a

circular buffer as opposed" to being stored elsewhere. (*Id*.) Nowhere does Ely (nor Fiore) disclose storing a "file" within the circular buffer itself. As explained above, Petitioner's oversimplified definition of "file" is at odds with logic and its own extrinsic evidence. (*See, e.g.*, Ex. 1025 at 2; Ex. 1026 at 3; Ex. 1027 at 3.)

Instead of intending for data to be stored within and transferred out of the circular buffer as a data "***file***", Ely's data will be maintained and transmitted over a data transmission "channel," i.e., in serial form, which allows for ultimate storage linearly onto videotape. (Ex. 1020 at 3:37-46, 4:36-48, 12:37-46.)

3. Petitioner Has Failed to Meet Its Burden of Showing That a POSITA Would Have Been Motivated to Combine Ely with Fiore

Petitioner wrongly states that a POSITA would have been motivated to combine Ely and Fiore to arrive at the inventions of claims 1 and 12. (Pet. at 58-61.)

The Petition asserts that Ely and Fiore "describe similar technologies and solve similar problems". (Pet at 58.) Petitioner is wrong. Ely begins its "Objects and Summary of the Invention" section by noting: "[i]t is accordingly an object of the invention to provide a video surveillance system having an improved capability for storage of video signals." (Ex. 1020 at 2:34-36.) Ely continues:

> By providing a video surveillance system that includes camera units having digital storage for signals generated in the respective camera unit, video signals corresponding to conditions before, during and after an alarm event can be conveniently and reliably stored, and the locally

> stored video can be read out and transmitted to an operator attended station at a convenient time for viewing and ***permanent recording on video tape***.

(*Id*. at 4:63-5:3.) This goal in Ely of "permanent recording" by "***video tape***" is incompatible with Fiore, which states:

> Event recording and playback devices used to monitor and record events typically fall into one of two types. VCR and tape recording type devices permit the recording of a video and/or other signal and allows later playback of these signals. Other recording and playback devices utilize a circular storage buffer during recording in which recent data over-writes the older data.

(Ex. 1009 at ¶ 0005.) Fiore is directed to the latter type, not the "tape recording type" system described in Ely. While Ely describes a "ring buffer" for "storing digital video data," video frame event data stored from Ely's buffers will ultimately be converted back to analog video for storage onto a video tape. (*See, e.g.*, Ex. 1009 at 10:43-45.) This goal of analog storage would be thwarted if the serial data in the buffer were packaged into, and transmitted as, a digital data file. A digital data "***file***" is not stored on video tape.

As noted above, Fiore would not be a source to which a POSITA would look when searching for a solution to selectively write-protect segments of continuously recorded data while the data resides in the circular buffer. Fiore does not disclose ***selectively write-protecting*** segments of time-stamped event data within a circular buffer. Fiore discloses a circular buffer operating such that "the oldest signal data . . . is being overwritten by the most recent signal data." (Ex. 1009 at ¶¶ 0047; 0063.)

To preserve data, Fiore (like Ely) teaches that individual event data may be transferred to a different memory location. Specifically, Fiore resolves data preservation in view of the circular buffer's overwrite operations as follows:

> [t]he extracted data frames are then stored in file system 17 thereby providing a permanent record of the data frames before, during, and after the event prior to the data frames being overwritten in the circular storage buffer 15 by more recent data frames.

(Ex. 1009 at ¶ 0048.) Nowhere does Fiore suggest selectively write-protecting segments of data within a circular buffer. Thus, a POSITA would not look to Fiore as guidance on a system to selectively write-protect data segments on a circular buffer.

Further, as noted above, Fiore does not disclose creating or storing ***individual event files*** within a circular buffer. The idea of storing individual event files within temporary storage is expressly discouraged in Fiore's background section:

> Having to retrieve one or more of the plurality of files that are stored in the intermediate storage location, and/or to compile a plurality of files is cumbersome and time consuming.

(Ex. 1009 at ¶ 0010.) Instead, Fiore discloses "a circular storage buffer having ***a*** memory mapped file." (*Id*. at ¶ 0020.) Fiore consistently refers to the memory mapped file as a single file, in contrast to Fiore's disclosure of a plurality of "additional secondary memory mapped files," into which "an event processor . . . ***copies*** a plurality of data frames stored in the circular storage buffer that have time stamps proximate to the time of the event" for storage in an "event database". (*Id*.

at ¶ 0022.) Thus, Fiore identifies information stored in the buffer as "frames" or "data", while identifying information separately stored in the "event database" as "files".

As noted above, Petitioner appears to conflate Fiore's use of event timestamps to create event files (called "secondary memory mapped files") that are stored in an "event database," with an idea that is nowhere disclosed in Fiore, of indexing "***files within the memory-mapped file***." (Pet. at 58, 67.) Again, the latter is nowhere disclosed in Fiore.

Finally, a POSITA would not have been motivated to combine Ely with Fiore to arrive at a system that creates and stores individual event files on a circular buffer because Fiore seeks to avoid such "multi-tasking" demands on a processor controlling memory access, which contributes to the problem of dropped frames. (*Id*. at ¶ 0013.)

VI. CONCLUSION

In conclusion, the facts here warrant the Board exercising discretion to deny institution under 35 U.S.C. § 314(a). In addition, given the fatal flaws in each ground (as articulated above), as well as the ever-advancing stage of the district court case, the Board should deny institution, whether on the merits or through exercising its discretion under § 314(a).

Dated: November 18, 2024

Respectfully submitted,

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CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that there are 11,383 words in this paper, excluding any table of contents, table of authorities, mandatory notices under 37 C.F.R. § 42.8, certificate of word count, certificate of service, or appendix of exhibits. This certification relies on the word count of the world-processing system used to prepare this paper.

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e), the undersigned certifies that on November 18, 2024, the foregoing document is being served via electronic mail upon the following counsel of record for Petitioner:

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