

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NINTENDO CO., LTD., and
NINTENDO OF AMERICA INC.,
Petitioners,

v.

AMERICAN GNC CORPORATION,
Patent Owner

IPR2024-00667
U.S. Patent No. 6,508,122

PATENT OWNER AMERICAN GNC'S SUR-REPLY

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EX2003	Webpage, AGNC Founder, <i>available at</i> https://www.americangnc.com/ceo/Founder.htm (accessed June 6, 2024)
EX2004	Excerpts from Ching-Fang Lin, “Modern Navigation, Guidance, and Control Processing,” Prentice Hall, 1991
EX2005	Excerpts from Inventor Notebook of Hiram McCall, Feb. 6, 1999 to Dec. 14, 1999
EX2006	United States Provisional Patent Application No. 60/154,700
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I. Introduction and Summary

During this proceeding, American GNC's '122 Patent passed its 25-year anniversary from its priority application filing date. During that time, its inventions found success in the commercial market, were cited by others in the industry many times, were successfully licensed, and have been proven foundational in the practical application of MEMS-based Inertial Measurement Units. American GNC and the surviving inventor of the '122 Patent are proud of their inventive work so many years ago, and are honestly perplexed at a procedure that could retroactively invalidate their long-held and now expired invention rights as “obvious,” on nothing more than the conclusory say-so of a paid expert and argument from an accused infringer.

Now, Nintendo challenges claim 1 of the '122 patent with a true mosaic of alleged prior art references. As American GNC pointed out in Response, Nintendo's primary Ground involves four separate references, allegedly arranged three different ways to attack each of the elements. Response, 19-40. In Reply, Nintendo made clear that its Ground 1 should include two or three more references. Reply, 2-3 (citing *Slater* and *Ristic*), 9 (citing *Irwin*).

This Frankenstein monster of a prior art combination is held together only by conclusory statements from Nintendo's expert, and references to generalized common benefits like “noise” reduction, which even Dr. Young admitted on

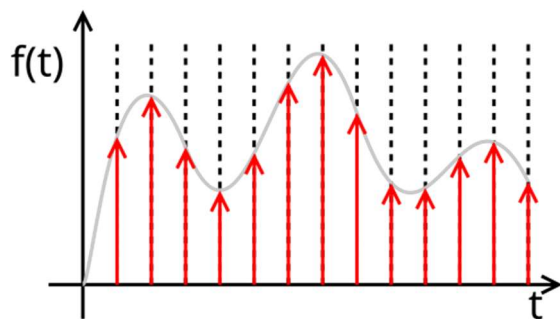
cross-examination was general and overbroad. EX2020, 56:6-58:7 (“I mean, all electrical systems, just to be fair, right, you always have noise like you said”), 61:21-64:23 (“If I only focus on noise, maybe it’s overbroad; right?”).¹ Such “conclusory statements of generalized advantages” are not enough reason to combine. *In re Beasley*, 117 Fed. Appx. 739, 744 (Fed. Cir. 2004); Response, 24-28. Nor is an expert’s say-so, particularly when Nintendo has the burden of proof and American GNC’s expert disagrees. Professor Larson carefully explained why a person of ordinary skill would not have been motivated to undertake the complete redesign of *Fujiyoshi*’s simple analog feedback loop suggested by Nintendo. EX2019, ¶¶49-50, 62-68, 81-84.

In Reply, Nintendo multiplies its expert testimony, offering as many as fifteen paragraphs where Dr. Young only provided one with the Petition. *See, e.g.*, Reply, 5 (“EX1002, ¶185 ...; EX1045, ¶¶20-30, 61-65”), 9 (“EX1002, ¶167; *see also* EX1045, ¶¶24-30”), 13 (“EX1002, ¶¶237-238; EX1045, ¶¶8-19, 31-35” and “EX1002, ¶237; EX1045, ¶¶31-41, 61-65”). Much of this is just disagreeing and restating prior opinions. *See, e.g.*, EX1045, ¶¶25, 26, 28. To the extent anything is new, it would be error to credit this supplemental testimony raised for

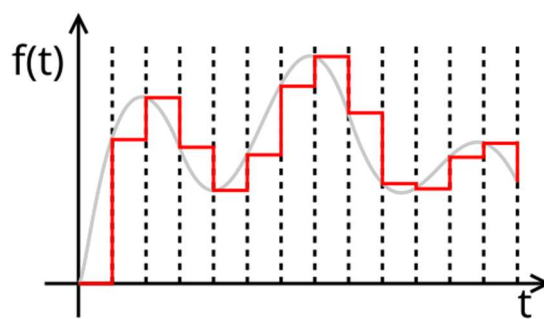
¹ In written Reply, Dr. Young went back to disagreeing that noise alone is an overbroad motivation. EX1045, ¶63.

the first time in Reply, as American GNC has not been afforded a fair opportunity to respond.

Even with its expert's testimony supplement, Nintendo fails in its burden to show teaching or suggestion of multiple elements of the challenged claims. For example, Nintendo relies on *Townsend's* "sample and hold" devices for the "digital low frequency inertial element displacement signals" element of the claims. Petition, 32. But sample and hold devices do not filter or otherwise lower the frequency of a signal. As their name indicates, they instead hold a signal for a brief moment to assist in sampling it digitally. *See, e.g.,* https://en.wikipedia.org/wiki/Sample_and_hold.



Sampled signal



Sample and hold

Nintendo does not say otherwise, even in Reply. Response, 24-25, Reply, 8 (arguing instead that low-pass filtering is not required). The '122 Patent teaches embodiments that filter in order to generate "low frequency inertial element

displacement signals.” *See, e.g.*, EX1001, 8:28-39. Sample and hold devices do not filter—they sample, and hold.

Dr. Young’s sole paragraph on this subject—which Nintendo does not supplement, *see* Reply, 8-9, *citing* EX1002, ¶165—fails to explain how sample and hold structures could lower signal frequency. Common knowledge and other disclosures of *Townsend* confirm that they do not. *See, e.g.*, EX1004, 7 (describing clocking at “four times” the frequency and using four sample and hold devices to “provide interleaving of the samples” at the frequency), Fig. 5. In implicit acknowledgement of, and seeking to fill this gap, Nintendo proposes yet another reference: *Cox*—taking the combination back into analog to purportedly add low-pass filtering. *See* Response, 27-28, 30-31.

At the end of the argument, Nintendo is back to simply asserting that even if the *Fujiyoshi*, *Townsend*, and *Cox* combination is unduly complicated, it would be obvious—based only on Dr. Young’s opinion. Reply, 9, *citing* EX1045, ¶28; *see also* EX1045, ¶30 (“I disagree.” and “In my opinion...”).

Professor Larson testified that the combination would not be motivated or obvious, and explained why. EX2019, ¶¶49-50 (“would have been seen to add significant complexity to ... solutions relying on analog components in simple feedback loops”), 62-68 (“*Fujiyoshi* already teaches an analog circuit design that purportedly solves problems of noise, sensitivity, and reliability”), 81-84 (“an

ordinary artisan would not have been motivated to take the inventive step that Mr. McCall did”).

Mr. McCall also testified that, as a matter of fact, his digital signal processing expertise was unusual among practitioners in the MEMS art at the time, which enabled the success of his inventions. EX2023, ¶¶5-14. Professor Larson corroborated this from his own experience. EX2019, ¶¶81-84.

Nintendo’s restatement of its unsupported expert opinion in a more verbose fashion on Reply does not rebut Professor Larson or Mr. McCall. Nor does it resolve this testimony conflict for Nintendo—which has the burden of proof on obviousness and failed to meet it.

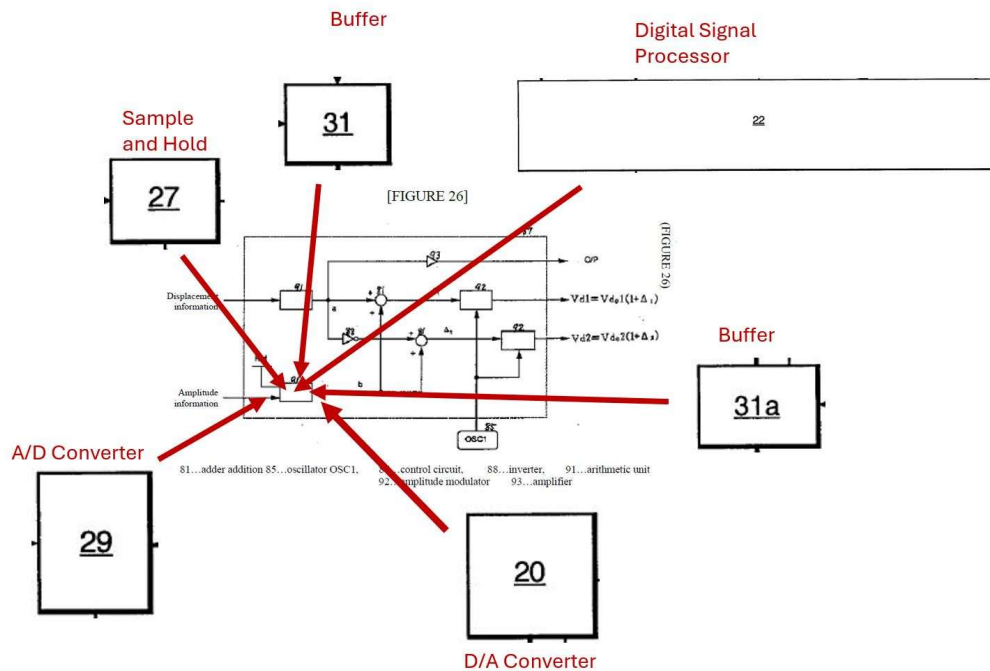
Dr. Young’s unsupported opinion is motivated by hindsight and a desire to find all of the elements in the prior art. It is not credible, and Dr. Young cites nothing in *Fujiyoshi* to suggest, that an ordinary artisan would replace a simple wire in an analog feedback loop with a sample and hold device, then an analog low-pass filter, then an analog to digital converter, then a buffer, then a digital signal processor, then another buffer, and then a digital to analog converter. Yet this is what Dr. Young alleges would have occurred in his complex combination (EX2020, 45:20-46:22)—purportedly in order to obtain vague and generalized benefits, that *Fujiyoshi* already taught were available with its analog implementation. EX2019, ¶¶64-68.

Other elements are missing from Nintendo's Ground 1 prior art mosaic, including any teaching or suggestion of a "digital signal processing system *analyzing*" the missing "digital low frequency inertial element displacement signals" of the claims. Response, 28-29. In other words, none of the various references Nintendo relies on in this combination disclose any analytical purpose for all of this alleged re-design and conversion—to allegedly obtain "digital low frequency inertial element displacement signals" for which no need is shown in the art. Dr. Young's alleged motivations are admittedly overbroad ("noise") or are unrelated to the claimed invention. Again, the only real purpose motivating this combination appears to be Nintendo's desire to find every element of the challenged claims—however many references it takes to do so.

As explained further below, similar flaws are manifest in Nintendo's second ground based on *Mitamura*—another completely analog reference, disclosed to be complete and functional on its own terms, to which Nintendo and Dr. Young seek to rework and attach numerous extraneous digital blocks, so as to conjure something that looks like the challenged claims. Response, 41-50.

Again, Professor Larson carefully explained why a person of ordinary skill would not have been motivated to undertake Dr. Young's complete redesign of *Mitamura*'s simple analog subtractor. EX2019, ¶¶49-50, 69-75, 81-84.

Nintendo's Grounds are each a complex problem being inserted where there is no disclosed need or motivation to do so. *See, e.g., id.*, ¶72:



The existence of these disparate and unclaimed building blocks in the art is insufficient to invalidate claims. *See, e.g., Virtek Vision International ULC v. Assembly Guidance Systems, Inc.*, 97 F. 4th 882, 887-88 (Fed. Cir. 2024) (“That is an error as a matter of law. It does not suffice to simply be known. A reason for combining must exist”). The challenged claims disclose a specific use of digital signal processing, to analyze a specific kind of signal. EX1001, 9:47-54 (claim 1). Even combined, Nintendo's references do not teach or suggest that specific signal, or any purpose for generating or any analysis of it.

As shown in American GNC's Response, Nintendo has failed in its burden

to demonstrate obviousness. Nothing offered by Nintendo in Reply mediates or corrects this failure of proof.

In addition, American GNC presented significant objective evidence of non-obviousness, including in the form of corroborated and unrebutted testimony from Mr. Hiram McCall. American GNC achieved technical success where other, highly resourced, research groups at MIT Draper Labs and NASA Jet Propulsion Labs had yet to succeed. EX2023, ¶¶8-14, 21-23; EX1046 (Larson Tr.), 27:3-15 (“So I believe that the inertial navigation [MEMS] people were still maybe struggling more in the research phase at this time”). American GNC also achieved commercial success with its angular rate sensor and corresponding IMU products including these inventions. EX2023, ¶¶19-20; *see also* EX2019, ¶¶48-50; Response, 2-4, 33-34. The ’122 Patent was also highly cited and successfully licensed. Response, 3, 33-34; EX1048 (McCall Tr.), 37:18-38:16.

In Reply, Nintendo simply denies this evidence with argument. Reply, 15-16. But American GNC *did* show a product embodying, and coextensive with, the challenged claims. EX2023, ¶¶15-20 (“successfully implemented in American GNC’s coremicro IMU product”); EX2002, 2 (“AGNC produced the world’s first MEMS rate integrating gyroscope in 1999, setting the stage for continued development of its coremicro® IMU product series”). The claimed microelectromechanical system of the ’122 Patent is the high-performance MEMS

angular rate sensor “enabling” American GNC’s coremicro IMU product. EX1001, 2:31-34 (“The present invention enables the core micro IMU”), 2:43-47, 9:39-54 (claim 1); *see also* IPR2024-00668, EX1001 (’648 Patent), 17:37-45 (“circuit board 7 for producing X axis angular sensing signal”), Fig 17:

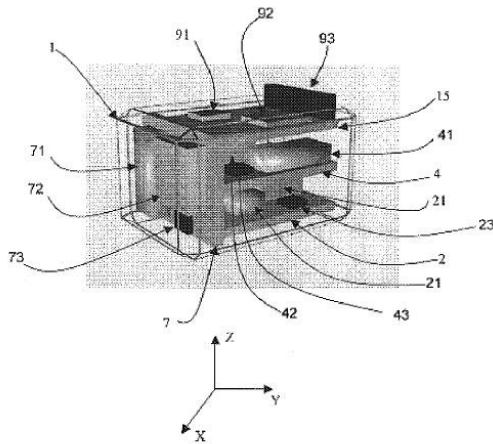


Figure 17



American GNC *is* entitled to a presumption of nexus, because the coremicro IMU product containing the ’122 Patent MEMS angular rate sensors “*is* the invention disclosed and claimed.” *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988). Nintendo has offered no evidence to rebut this presumption. *Polaris Indus., Inc. v. Arctic Cat, Inc.*, 882 F.3d 1056, 1072 (Fed. Cir. 2018) (“a patent challenger cannot successfully rebut the presumption with argument alone—it must present evidence”). American GNC’s non-obviousness considerations evidence provides further compelling reasons to uphold the challenged claims here.

As detailed in American GNC's Response and herein, Nintendo's Grounds each fail its burden of proof concerning alleged obviousness. The challenged claims are valid and should be upheld.

II. Petitioner failed to prove that the challenged claims are obvious over *Fujiyoshi* with *Kumar*, *Slater*, and *Ristic*, plus *Fujiyoshi*, *Townsend*, and *Cox*, plus *Fujiyoshi* and *Townsend* again

As discussed above and in Response, in order to attack all of the elements of challenged claim 1, Nintendo asserts three different prior art groupings, totaling at least six references. Nintendo asserts only cursory motivations to combine for nearly all of these variations. Response, 20-40. For all of the reasons given, none of these three combinations is supported by the required motivation. *See, e.g., Virtek*, 97 F.4th at 888 (“It does not suffice to simply be known. A reason for combining must exist.”). Some aspects of these improper combinations are discussed in the previous section, and below.

A. *Fujiyoshi*, *Townsend*, and *Cox* (plus *Irwin*) fail to disclose or render obvious “digital low frequency inertial element displacement signals”

None of the disparate references in this combination disclose or teach anything about outputting inertial element displacement signals as “low frequency” inertial element displacement signals. None of the prior art references uses this language or concept—there is no direct teaching of producing “digital low frequency inertial element displacement signals” in any cited reference.

This claim element is about a specific kind of signal in the dither motion control loop of a MEMS angular rate sensor—namely, “inertial element displacement signals.” Mr. McCall, and American GNC’s patent specifications, describe the inventive insight that this control loop, and careful treatment of these signals, are critical for overcoming known problems in the art. EX2023, ¶10.

In prior art sensors, and in *Fujiyoshi* and *Mitamura*, this dither control loop and the “inertial element displacement signals” were analog. *Id.*, ¶¶6, 10, 13; EX2019, ¶¶63-64 (*Fujiyoshi*), 70-71 (*Mitamura*), 81-84 (generally). Those references taught analog solutions to known problems. EX2019, ¶¶49-50, 67, 74. They provided no inkling of suggestion to change—or wholesale redesign—these critical control loops to include a digital processing approach. *Id.* *Fujiyoshi*, and *Mitamura*, did not teach or suggest what Mr. McCall, with his prior digital signal processing experience above ordinary skill, knew to be an opportunity for inventive improvement in the art. EX2023, ¶¶5-14. Nintendo does not say otherwise, even in Reply.

In its Petition and in Reply, Nintendo instead relies heavily on *Townsend* and its irrelevant vague praise of digital systems in general. *See, e.g.*, Reply, 5. But the alleged benefits of providing digital readouts or configurations have nothing to do with the claim language here. *Id.*

Similarly, Nintendo asked Professor Larson about general concepts of

digital signal processing in a brief cross-examination, using one of his publications as a reference. Reply, 7-8, 10. But that was an article about circuits generally, not MEMS or the inertial navigation field. And it is not shown to be relevant to ordinary artisans here. EX1044. Nintendo *did not* ask Professor Larson about his actual opinions, concerning what would have been known or obvious to a person of ordinary skill—and he certainly did not endorse or confirm Nintendo’s arguments here.

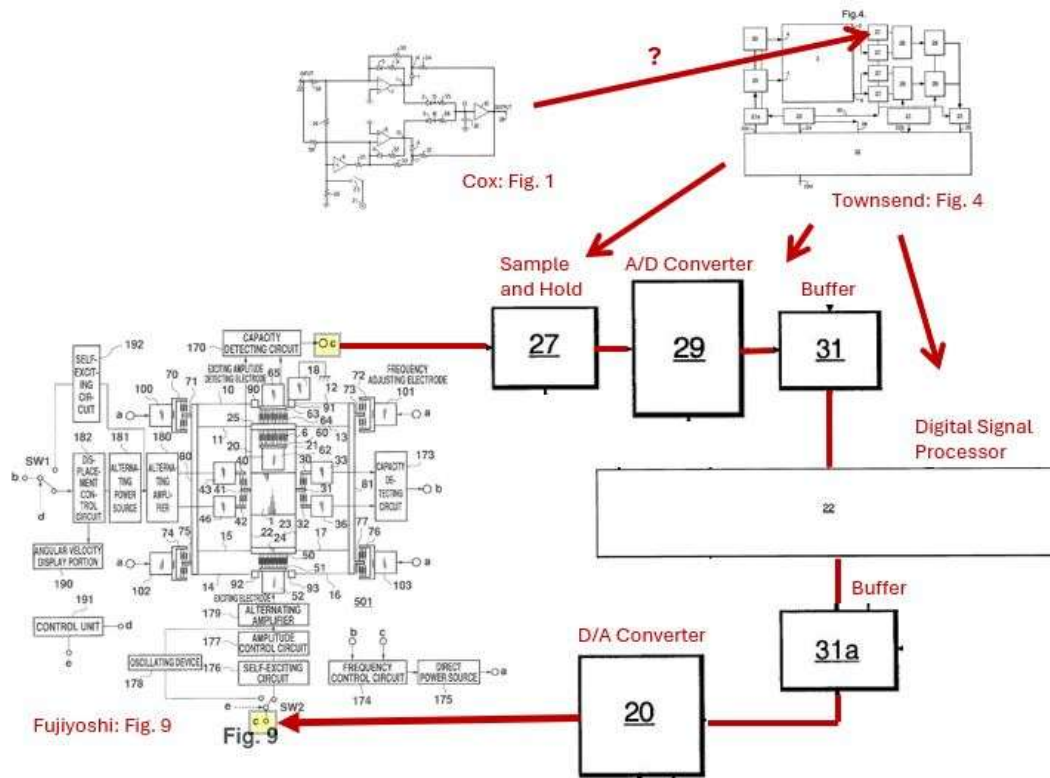
The obviousness question presented here is not whether certain knowledge concerning analog to digital conversion existed in some art. The question is whether an ordinary artisan, working with MEMS angular rate sensors in 1999, would have found it obvious to redesign disclosed references here. To rip out the analog dither drive feedback wire disclosed in *Fujiyoshi*, and then add—according to Dr. Young—a sample and hold device, then an analog low-pass filter from a completely different reference, then an analog to digital converter, then a buffer, then a digital signal processor, then another buffer, and then a digital to analog converter. And the answer is no, for all of the reasons testified to by Mr. McCall and Professor Larson—and also because none of these references provide any specific reason to disturb, digitize, and filter the critical “inertial element displacement signals” of *Fujiyoshi*.

As discussed above, Townsend’s sample and hold circuits do not filter or

otherwise change signals to “low frequency” signals. Nintendo knows this and so relies on *Cox* for that aspect of the challenged claims. Reply, 9; EX1002, ¶167. But as American GNC explained in Response, *Cox* is not in the same field, doesn’t discuss noise or aliasing reduction, and *adds components* in service of an alleged benefit of reducing components. Response, 36-37.

In Reply, Nintendo suggests that its theory is really about modifying *Townsend*’s sample-and-hold devices, with some non-specific aspect of *Cox*, to also be filters—and that this is somehow further suggested by *yet another reference, Irwin*. Reply, 9. Only conclusory unsupported testimony is provided in this regard.

And this multi-reference collage still does not actually reduce components or save cost, because *Townsend*’s sample-and-hold devices—along with all of the other components added to this analog circuit redesign proposed by Dr. Young—aren’t needed or suggested either. *See, e.g.*, EX2019, ¶65 (demonstrative figure, further annotated below to include the unexplained alleged *Cox* modification to *Townsend* sample and hold circuit):



As Professor Larson pointed out, all of this redesign is alleged to be replacing an analog feedback wire—in a reference that professes to work perfectly well as is. EX2019, ¶¶63-68. At some point, this kind of prior art element assembly crosses into absurdity and is recognizable only as hindsight—violating the rule that the claimed invention is not to be “used as a frame” on which “individual, naked parts of separate prior art references were employed as a mosaic to recreate a facsimile of the claimed invention.” *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1552-53 (Fed. Cir. 1983). Nintendo’s three proposed combinations—containing as many as seven references, depending on whether one counts alleged background references improperly used in the

Ground—are well past becoming an improper hindsight mosaic here.

B. *Fujiyoshi* and *Townsend* fail to disclose or render obvious a “digital signal processing system analyzing” the “digital low frequency inertial element displacement signals”

As American GNC explained in Response, the challenged claims don’t just require the production of “digital low frequency inertial element displacement signals,” they also require that these particular signals be analyzed by a digital signal processing system. EX1001, 9:51-54. Nintendo’s references do not disclose or suggest this analysis. Response, 28-35. The Petition and Declaration do not use the word analyzing here at all, except in quoting the claim language. *Id.* at 28-29. Townsend doesn’t disclose any benefit applicable to the specific “digital low frequency inertial element displacement signals” that must be analyzed. EX2019, ¶¶63-68, 81-84.

In Reply, Nintendo points to “calibrations and compensations” mentioned in passing in *Townsend*, without any language teaching or suggesting that such things might apply to the “digital low frequency inertial element displacement signals.” Reply, 12. Professor Larson’s cross-examination testimony, about the different kinds of analysis that could be applied, is not relevant. *Id.* Nintendo bears the burden of showing obviousness, and has failed to tie any disclosure or suggestion from *Townsend* to *any* analysis of the “digital low frequency inertial element displacement signals.”

A person of ordinary skill in the art would not be motivated to, or even be able to, undertake the complicated circuit redesign discussed in the subsection above. This is even more true when the many references utilized by Nintendo fail to disclose any analytical purpose or benefit relevant to the claimed “digital low frequency inertial element displacement signals.”

In summary, Nintendo has failed its burden to show teaching or suggestion of multiple elements in *Fujiyoshi* in the complex disclosed combinations. The challenged claims must be upheld over Nintendo’s Ground 1 for this additional reason.

III. Petitioner failed to prove that the challenged claims are obvious over *Mitamura* in combination with *Townsend*

As discussed above and in Response, Nintendo’s proposed combination of *Mitamura* with *Townsend* lacks motivation, and would not have been undertaken by a person of ordinary skill in the art. *See, e.g.*, Response, 48-50; EX2019, ¶¶49-50, 69-75, 81-84. *Mitamura* discloses an analog solution, in which the identified “arithmetic unit 91” is used for a basic reference threshold function that “could be performed by a simple analog circuit, such as a subtractor.” EX2019, ¶¶70-71.

A. *Mitamura* in combination with *Townsend* fails to disclose or render obvious “digital low frequency inertial element displacement signals”

In the Petition, and again on Reply, Dr. Young disagrees with this simple and sensible explanation of the reference, and argues that “set[ting] a reference

level” somehow suggests digital circuitry, and that digital circuitry would allow “complex calculations.” EX1002, ¶237; Reply, 13. But the calculation *Mitamura* actually discloses for this circuit is a simple voltage comparison (*id.*), and an analog subtractor circuit is the simplest way to do that—particularly in a circuit where all the surrounding components are admittedly analog. EX2019, ¶¶70-71; EX1002, ¶238 (“the other circuitry of *Mitamura*, which is implemented in analog circuitry”).

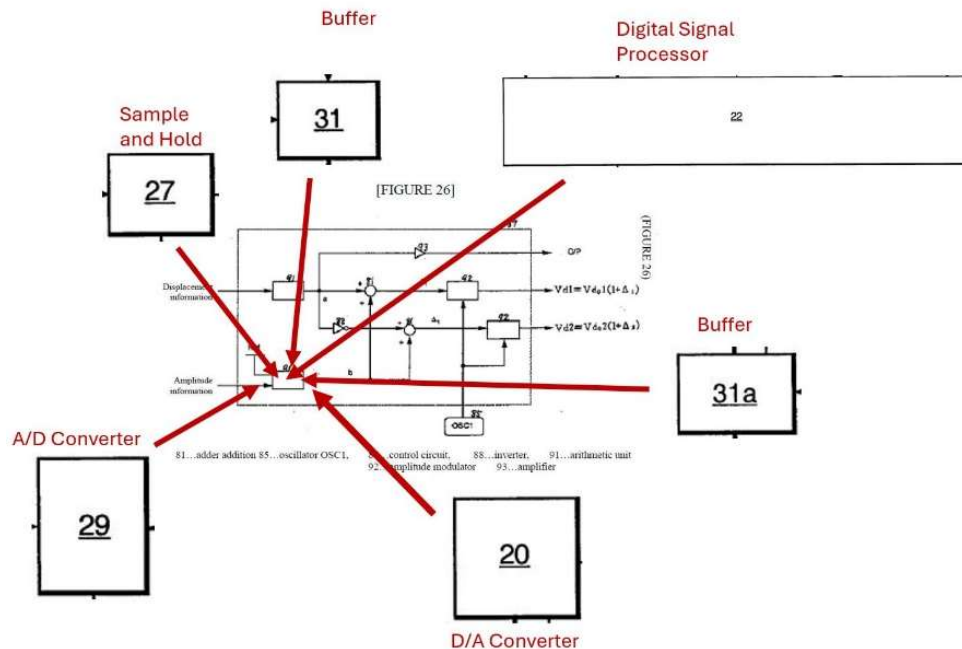
In Reply, Dr. Young offers a brand new and contradictory theory, in which he opines that the other circuitry of *Mitamura* “could be implemented using either analog or digital,” and that people would not know which it was. EX1045, ¶32.

Changing theories like this on Reply violates the particularity requirements of the IPR statute, Board rules, and precedents. *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016); *see also Henny Penny Corp. v. Frymaster LLC*, 938 F.3d 1324, 1329–31 (Fed. Cir. 2019); *Wasica Fin. GmbH v. Cont’l Auto. Sys., Inc.*, 853 F.3d 1272, 1286 (Fed. Cir. 2017).

But perhaps more to the point, changing theories like this between a Petition Declaration and a Reply Declaration undermines the credibility of Dr. Young and of Nintendo’s argument. Nintendo bears the burden of proof, so alleging uncertainty as to whether this function is analog or digital does nothing for Nintendo’s argument. *See* Reply, 13-14; EX1045, ¶¶31-34 (“*Mitamura* does

not say...”).

As with Nintendo’s Ground 1, discussed at length above, Ground 2 depends for this element on an alleged wholesale importation of digital blocks from *Townsend*. EX1002, ¶240 (“the sample-and-hold devices, buffers, analog-to-digital converters, and digital-to-analog converters”); EX2019, ¶72:



As with Ground 1, Dr. Young disagrees with Professor Larson’s analysis, offering only conclusory statements about the complexity, and alleged obviousness, of this prior art collage. EX1045, ¶¶37, 39. In Reply, Nintendo offers nothing to rebut American GNC’s testimony, simply resorting to argumentative disagreement. Reply, 14.

For all the reasons shown here and in Response, Nintendo has failed its burden to show teaching or suggestion of these elements in *Mitamura* and

Townsend. For this additional reason, the challenged claims should be upheld.

B. *Mitamura* in combination with *Townsend* fails to disclose or render obvious a “digital signal processing system analyzing” the “digital low frequency inertial element displacement signals”

As American GNC explained in Response, Nintendo’s references do not disclose or suggest a “digital signal processing system analyzing” the “digital low frequency inertial element displacement signals.” Response, 44-48. As discussed above for Ground 1, *Townsend* doesn’t disclose any benefit that is applicable to the specific “digital low frequency inertial element displacement signals” that must be analyzed. EX2019, ¶¶69-75, 81-84.

In Reply, Nintendo again points only to *Townsend*’s vague reference to “calibrations” and compensations. Reply, 14. But how this is relevant to the claimed signals, Nintendo does not say. As discussed above for Ground 1, Nintendo bears the burden of showing obviousness, and has failed to tie any disclosure or suggestion from *Townsend* to *any* analysis of the “digital low frequency inertial element displacement signals.”

A person of ordinary skill in the art would not be motivated to, or even be able to, undertake the complicated circuit redesign discussed in the subsection above. This is even more true when *Townsend* fails to disclose any analytical purpose or benefit relevant to the claimed “digital low frequency inertial element displacement signals.”

In summary, Nintendo has failed its burden to show teaching or suggestion of multiple elements in *Mitamura* in the alleged combination. The challenged claims must be upheld over Nintendo's Ground 2 for this additional reason.

IV. Objective evidence of non-obviousness has been presented and was not rebutted by Petitioner

In addition to all the reasons given above, the challenged claims are non-obvious on consideration of the evidence presented by American GNC of commercial success, technical success (including where others had not), as well as citation by and licensing by others of the '122 Patent.

As discussed in Section I above and in Response, the '122 Patent challenged claims were embodied in, and are coextensive with, American GNC's "coremicro" IMU product. *See, e.g.*, Response, 32-34; EX2023, ¶¶15-20 ("successfully implemented in American GNC's coremicro IMU product"); EX2002, 2 ("AGNC produced the world's first MEMS rate integrating gyroscope in 1999, setting the stage for continued development of its coremicro® IMU product series"). The claimed microelectromechanical system of the '122 Patent is the high-performance MEMS angular rate sensor "enabling" American GNC's coremicro IMU product. EX1001, 2:31-34 ("The present invention enables the core micro IMU"), 2:43-47, 9:39-54 (claim 1); *see also* IPR2024-00668, EX1001 ('648 Patent), 17:37-45 ("circuit board 7 for producing X axis angular sensing

signal”), Fig 17.

This evidence from the ’122 Patent, along with the inventor notebook and weekly reports, each corroborates Mr. McCall’s testimony that the ’122 Patent was implemented in American GNC’s “coremicro” IMU product. The coremicro IMU product “*is the invention disclosed and claimed,*” and American GNC has shown it is entitled to a presumption of nexus for its evidence of, *e.g.*, commercial success and the failure of others. *Demaco*, 851 F.2d at 1392; *Polaris Indus.*, 882 F.3d at 1072 (“When the patentee has presented undisputed evidence that its product is the invention disclosed in the challenged claims, it is error for the Board to find to the contrary without further explanation.”).

Nintendo cannot rebut American GNC’s evidence of, *e.g.*, commercial success and failure of others with argument alone—as it attempts to do, *see* Reply, 15-16—“it must present evidence.” *Polaris Indus.*, 882 F.3d at 1072. Mr. McCall’s un rebutted and corroborated testimony—about beating MIT Draper Labs and NASA JPL to technical success, as well as American GNC’s resulting commercial success and licensing success—is tethered to the claims because the successful coremicro IMU product embodied and was coextensive with the claims. *See, e.g.*, EX2023, ¶¶8-14, 21-23; EX1046, 27:3-15 (technical success before others); *see also* EX2023, ¶¶19-20; *see also* EX2019, ¶¶48-50; Response,

2-4, 33-34 (commercial success); Response, 3, 33-34; EX1048, 37:18-38:16 (successful enforcement and licensing).

Nintendo has not shown, and indeed cannot show, contrary evidence. It attempts to disparage Mr. McCall's testimony as "subjective." Reply, 16. Mr. McCall does indeed have a subjective opinion about Nintendo's obviousness assertions concerning decades-old work for which he received many patents and is justifiably proud. EX2023, ¶3 ("In truth, I find this suggestion somewhat insulting."). But his testimony about that work, American GNC's technical and commercial success, and the efforts of others of which he was aware, is all objective, unrebutted fact testimony. *Id.* ("But I understand that I am not being asked for my personal or expert opinion on this matter. Instead, I confine my testimony to the factual context of the inventive work.").

As explained in detail in the sections above and in American GNC's Response, a person of ordinary skill would not have been motivated to, or reasonably capable of, the complex technology substitution—of a collage of prior art references and DSP blocks—involved in each of Nintendo's Grounds. American GNC's unrebutted objective evidence of non-obviousness detailed above provides additional reasons that the challenged claims must be upheld.

V. The Petition should be dismissed as time barred

With its Preliminary Response and Response, American GNC introduced evidence that STMicroelectronics N.V. and STMicroelectronics S.R.L., who were long ago “served with a complaint alleging infringement of the patent” here, should have been named as real parties in interest by Nintendo. 35 U.S.C § 315(b); Response, 61-64.

To the extent that the Board does not uphold the challenged claims as non-obvious—which it should, for all of the reasons given above—the Board should allow for discovery and consider this issue. *See, e.g., Semiconductor Components Industries, LLC v. Greenthread, LLC*, IPR2023-01242, Decision on Director Review, Paper 94 (P.T.A.B. April 24, 2025).

American GNC appreciates the Panel’s May 9, 2025 Order authorizing it to file a Motion for Discovery into the factual basis for this RPI issue, and the guidance provided therein. Paper 36. As requested by the Board, American GNC will also brief the 315(b) interpretation question of first impression raised by Nintendo—specifically, whether being a named co-defendant on a Complaint, with a customer who is accused of infringement, meets the statutory text of section 315(b), and serves the statutory purpose of incentivizing parties with notice to timely bring any challenges. *See, e.g.,* Response, 62.

Nintendo's Reply argues facts based on statements by Nintendo's own lead counsel. Reply, 25 (*citing* EX2018, 13:13-14: "STMicro has not agreed to indemnify us"). These statements confirm that relevant communications have taken place. Discovery will illuminate why the agreement, and surrounding communications, show a RPI relationship. *See, e.g., Samsung Electronics Co., Ltd. v. Netlist, Inc.*, IPR2022-00615, Paper 40, 2023 WL 9787488 (P.T.A.B. Feb. 3, 2023) ("any indemnification agreements and related communications ... related to the [] litigation and this proceeding are likely to help clarify whether Samsung is representing Google's interest (*see* RPX, Paper 128, 8) or filed the Petition on Google's behalf (*see* Ventex, Paper 148, 9)").

Similarly, discovery will illuminate the lack of basis behind Nintendo's arguments about different STMicro entities. *See* Reply at 23-25. STMicroelectronics N.V.—which is “commonly referred to as ST or STMicro,” *see* <https://en.wikipedia.org/wiki/STMicroelectronics>—is the global parent entity for “STMicro,” and is one of the alleged RPIs here.

As with obviousness, Nintendo has the burden of proof on this issue. *Ventex Co., Ltd. v. Columbia Sportswear North America, Inc.*, 2019 WL 764130, *2-6 (P.T.A.B. Jan. 24, 2019) (*designated precedential*, April 16, 2019) (noting that the “burden [is] on IPR petitioners to demonstrate that its petitions are not time-barred”); *Semiconductor Components Industries*, IPR2023-01242, Paper 94

at 3 (“whether Petitioner has met its burden of demonstrating it is not time-barred under § 315(b)”). American GNC has presented evidence—and will present more if discovery is permitted—to support its argument that STMicro should have been named as a real party in interest or privy, and has put the issue into dispute. *Id.*; Response 61-64.

VI. Conclusion

As detailed above, and in American GNC’s Response, Nintendo failed its burden to show obviousness of elements of all challenged claims.

For all of these reasons, the challenged claims must be upheld.

Dated: May 13, 2025

Respectfully submitted,

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37 C.F.R. §42.24(d) CERTIFICATION

The undersigned hereby certifies that this submission, excluding the tables of contents, certificate of word count, exhibit list, and certificate of service, contains 4,826 words, as determined using the standard word counting feature of the Microsoft Word program.

Dated: May 13, 2025

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CERTIFICATE OF SERVICE

Petitioner has consented to e-mail service in this proceeding. Pursuant to 37 C.F.R. §42.6, the undersigned certifies that on May 13, 2025, a copy of the foregoing document was served by email upon the following counsel at the below email addresses:

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