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UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA

BEATBOT TECHNOLOGY (USA)
CO. LTD., DEEPWATER
INNOVATION TECHNOLOGY
(HONG KONG) LIMITED, and
XINGMAI INNOVATION
TECHNOLOGY (SUZHOU) CO.,
LTD.,

Plaintiffs,

v.

ZODIAC POOL SYSTEMS LLC,
Defendant.

Case No. 3:25-cv-01946-GPC-JLB

**BEATBOT'S PRELIMINARY
INVALIDITY CONTENTIONS**

3:25-CV-01946-GPC-JLB

1 Pursuant to the Court's Case Management Order and Patent Local Rules 3.3
2 and 3.4, Defendants and Counter-Claimants Beatbot Technology (USA) Co., Ltd.,
3 Deepwater Innovation Technology (Hong Kong) Limited, and Xingmai Innovation
4 Technology (Suzhou) Co., Ltd. (collectively "Beatbot") hereby submits the
5 following Invalidity Contentions.

6 Defendant and Counter-Claimant Zodiac Pool Systems LLC ("Zodiac")
7 alleges in its Infringement Contentions that Beatbot infringes: (1) claims 1-3, 5-8,
8 12-14, and 19 of U.S. Patent No. 11,880,207 ("the '207 patent"); (2) claims 1-5 of
9 U.S. Patent No. 11,262,766 ("the '766 patent") ; and (3) claims 1-3 of U.S. Patent
10 No. 11,003,191 ("the '191 patent") (collectively, "the Asserted Claims" or "the
11 Patents-In-Suit"). As discussed below, Beatbot denies Zodiac's allegations and
12 contends that each of the Asserted Claims is invalid under at least 35 U.S.C. §§ 101,
13 102, 103, and/or 112. Additionally, Beatbot reserves the right to assert that the
14 Asserted Claims are unenforceable.

15 In addition to the prior art identified below and the accompanying invalidity
16 claim charts, Beatbot also incorporates by reference any prior art disclosed at any
17 time during the prosecution of the Patents-in-Suit or related patents, by parties in the
18 present litigation, or by any party during any past, present, or future litigation or U.S.
19 Patent and Trademark Office proceeding involving the Patents-in-Suit or related
20 patents.

21 **I. PRELIMINARY STATEMENT AND RESERVATION OF RIGHTS**

22 Beatbot's Invalidity Contentions reflect Beatbot's present knowledge and
23 contentions regarding the Asserted Claims. Thus, the following contentions are based
24 on Beatbot's current knowledge, understanding, and belief as to the facts and
25 information available as of the date of these Invalidity Contentions. Discovery has
26 just begun in this matter. Thus, Beatbot has not yet completed its investigation,
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1 discovery, or analysis of matters relating to the invalidity of the Asserted Claims. In
2 addition, Beatbot's search for prior art is ongoing.

3 Accordingly, Beatbot reserves the right to amend, modify, and supplement,
4 without prejudice, these Invalidity Contentions as additional information is
5 discovered or otherwise identified or appreciated, including testimony about the
6 scope and content of the claimed inventions or state of the prior art. Beatbot submits
7 these Invalidity Contentions without waiving or contradicting Beatbot's position that
8 Zodiac's Infringement Contentions are deficient in various respects. For example,
9 Zodiac's Infringement Contentions fail to identify with sufficient specificity the
10 accused products and features, do not provide a separate claim chart for each accused
11 product or feature, and fail to specifically provide the basis for Zodiac's contention
12 that any accused product meets the limitations of any of the Asserted Claims.

13 To the extent that Zodiac is granted leave to amend its Infringement
14 Contentions to attempt to address these deficiencies, Beatbot reserves the right to
15 supplement these Invalidity Contentions in response to Zodiac's supplements.
16 Nothing stated herein is or shall be treated as an admission or suggestion that Beatbot
17 agrees with Zodiac regarding either the scope of any of the Asserted Claims or the
18 claim constructions advanced directly or implicitly by Zodiac's Infringement
19 Contentions. Additionally, nothing in these Invalidity Contentions shall be treated as
20 an admission that any of Beatbot's accused products meet any limitation of the
21 Asserted Claims.

22 In the absence of a claim construction order from the Court, Beatbot has based
23 these Invalidity Contentions upon Beatbot's knowledge and understanding of the
24 potential scope of the Asserted Claims at this time, and, in part, upon the apparent
25 constructions of the Asserted Claims advanced by Zodiac in its Infringement
26 Contentions. Beatbot also anticipates that the Court's construction of claim terms
27 may significantly affect the scope of the Asserted Claims. Therefore, Beatbot
28 reserves the right to supplement, without prejudice, these Invalidity Contentions as

1 appropriate depending upon the Court's construction of the claims of the Patents-In-
2 Suit, any findings as to the priority dates of the Patents-In-Suit, and positions that
3 Beatbot or its expert witnesses may take concerning claim interpretation,
4 infringement, or invalidity issues.

5 Beatbot provides certain claim charts as described herein. The accompanying
6 claim charts include, but are not limited to, exemplary obviousness combinations of
7 references under 35 U.S.C. § 103. The disclosed combinations are not meant to be
8 exhaustive. As reflected in the attached exhibits, the discussion herein, and in the
9 references themselves, all elements of Zodiac's Asserted Claims were disclosed in
10 the art before the patents' earliest possible priority dates, and one of ordinary skill in
11 the art would have readily fit their teachings together. Beatbot is not aware of how
12 Zodiac may attempt to distinguish the prior art cited herein. Accordingly, Beatbot
13 reserves the right to supplement or modify these Invalidity Contentions based on
14 Zodiac's contentions, claim construction, and further discovery. For any claim
15 limitation that Zodiac alleges is not disclosed in a particular prior art reference,
16 Beatbot reserves the right to assert that any such limitation is (a) inherent in the
17 disclosed reference; (b) obvious to one of ordinary skill in the art at the time; or (c)
18 disclosed in one or more other prior art references.

19 **II. PERSON OF ORDINARY SKILL IN THE ART**

20 Before July 10, 2012, July 11, 2016 (the filing date of Application No.
21 15/207,065) or July 2, 2020 (the filing date of Application No. 16/919,750), a
22 POSITA would have been someone knowledgeable and familiar with design or
23 development of autonomous robotic systems, camera-based sensing and image
24 processing, and control systems for aquatic or underwater applications that are
25 pertinent to the Patents-in-Suit. That person would have a bachelor's degree in
26 electrical engineering, mechanical engineering, or computer engineering, with at
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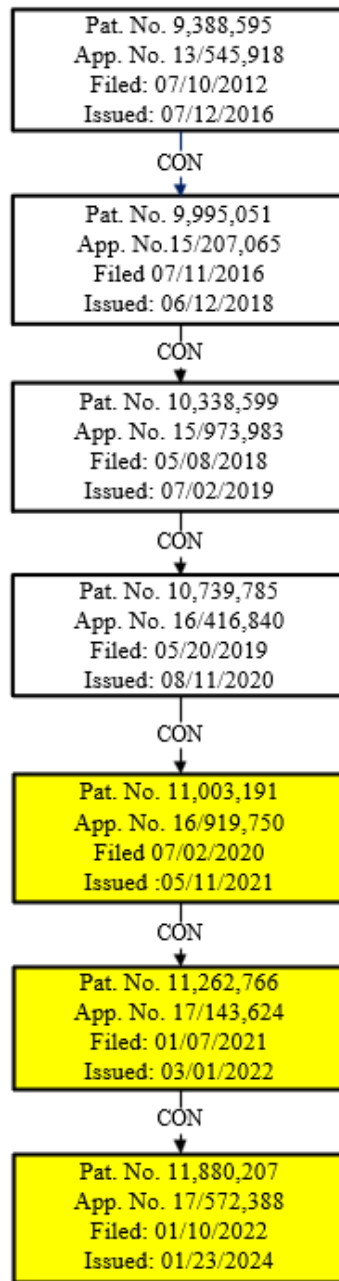
1 least two years' experience in autonomous camera-based robotic cleaning systems.
2 A lack of work experience can be remedied by additional education, and vice versa.

3 **III. ALLEGED PRIORITY DATE OF THE ASSERTED CLAIMS**

4 Zodiac bears the burden of showing, on a claim-by-claim basis, entitlement to
5 a priority date earlier than the filing date of the application leading to the relevant
6 Asserted Patent. See *In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1376 (Fed.
7 Cir. 2016) (A "patentee bears the burden of establishing that its claimed invention is
8 entitled to an earlier priority date."). "To obtain the benefit of the filing date of a
9 parent application, the claims of the later-filed application must be supported by the
10 written description in the parent 'in sufficient detail that one skilled in the art can
11 clearly conclude that the inventor invented the claimed invention as of the filing date
12 sought.'" *Anascope Ltd. v. Nintendo of Am. Inc.*, 601 F.3d 1333, 1335 (Fed. Cir.
13 2010).

14 Further, the chain of priority must be unbroken to obtain the benefit of the
15 earlier filing date. *Zenon Envmnt'l, Inc. v. U.S. Filter Corp.*, 506 F.3d 1370, 1378
16 (Fed. Cir. 2007) ("In order to gain the benefit of the filing date of an earlier
17 application under 35 U.S.C. § 120, each application in the chain leading back to the
18 earlier application must comply with the written description requirement of 35 U.S.C.
19 § 112.").

20 In Zodiac's Preliminary Infringement Contentions, Zodiac contends that all
21 the Asserted Claims of the three Asserted Patents—U.S. Patent Nos. 11,003,191
22 ("191 Patent"), 11,262,766 ("766 Patent"), and 11,880,207 ("207 Patent")—are
23 entitled to a priority date of July 10, 2012, which is the filing date of the earliest
24 application, U.S. Application No. 13/545,918 ("918 Application"), in the priority
25 chain common to all three Asserted Patents. See the family tree below.



Family Tree

But, Zodiac is not entitled to its claimed priority dates for at least the reasons set forth below. To the extent that Zodiac is later permitted to modify, and in fact modifies in any manner, the alleged priority date for the Asserted Claims of the Asserted Patents, Beatbot reserves the right to respond and challenge that date. Beatbot further reserves the right to amend and/or supplement these Contentions in

1 response to any modification of the alleged priority date, and reserves the right to
2 identify additional prior art references that anticipate or render obvious the Asserted
3 Claims in the event that Zodiac asserts or the Court determines that any one of the
4 Asserted Claims is entitled to a priority date later than July 10, 2012, or that any one
5 of the Asserted Claims is determined not to be entitled to the benefit of the July 10,
6 2012 priority date for any reason, including but not limited to a failure to satisfy the
7 written description or enablement requirements of 35 U.S.C. § 112.

8 **A. The '207 Patent**

9 Zodiac asserts, in the Preliminary Infringement Contentions, Claims 1-3, 5-8,
10 12-14, and 19 of the '207 Patent, among which Claims 1, 2, and 12 are independent
11 claims.

12 The filing date of the application leading to the '207 patent, U.S. Patent
13 Application No. 17/572,388 (“the '388 Application”), is January 10, 2022. The '388
14 Application claims priority, through a series of purported continuation applications,
15 to the '918 Application filed July 10, 2012. As explained below, the Asserted Claims
16 of the '207 Patent are not entitled to the priority date of July 10, 2012.

17 Asserted Claim 1 of the '207 Patent is not entitled to a priority date earlier than
18 July 2, 2020, the filing date of Application No. 16/919,750 (“the '750 Application”)
19 in the priority chain. Specifically, Asserted Claim 1 recites “a controller . . .
20 configured to generate . . . at least one control signal to cause movement of the
21 body . . . away from . . . the first portion of the submerged surface.” Throughout the
22 priority chain, the mention of “a controller . . . configured to generate . . . at least one
23 control signal to cause movement of the body . . . **away from** . . . the first portion of
24 the submerged surface” first appeared in the Preliminary Amendment filed
25 concurrently with the '750 Application on July 2, 2020. Thus, claim 1 is not entitled
26 to a priority date earlier than July 2, 2020, the filing date of the '750 Application. To
27 the extent that Zodiac is later permitted to modify, and in fact modifies in any manner,
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1 the alleged priority date for claim 1 of the '207 Patent, Beatbot reserves the right to
2 respond and challenge that date.

3 Asserted claims 2, 3, 5-8, 12-14, and 19 of the '207 Patent are not entitled to a
4 priority date earlier than January 10, 2022, the filing date of the '388 Application.
5 Specifically, independent claim 2 of the '207 Patent recites “at least one piece of
6 equipment for a . . . **spa**” and “one or more cameras configured to capture video or
7 images of at least a portion of a location including the . . . **spa**”; claim 12 recites
8 “receiving images of at least a portion of a location including a . . . **spa** from one or
9 more cameras.” Throughout the priority chain, the mention of word “spa” first and
10 only appeared in newly added claims 21 and 31—corresponding to claims 2 and 12
11 of the '207 Patent, respectively—and certain new dependent claims, which were filed
12 on June 29, 2023, in a Response to the Non-Final Office Action rejecting the sole
13 pending claim 20 (corresponding to claim 1 of the '207 Patent) for nonstatutory
14 obviousness-type double patenting.¹ Thus, claims 2 and 12, and their respective
15 dependent claims including claims 3, 5-8, 13, 14, and 19, of the '207 Patent are not
16 entitled to a priority date earlier than January 10, 2022, the filing date of the '388
17 Application. To the extent that Zodiac is later permitted to modify, and in fact
18 modifies in any manner, the alleged priority date for these claims of the '207 Patent,
19 Beatbot reserves the right to respond and challenge that date.

20 Therefore, claim 1 of the '207 Patent is not entitled to a priority date earlier
21 than July 2, 2020, the filing date of the '750 Application; claims 2, 3, 5-8, 12-14, and
22 19 of the '207 Patent are not entitled to a priority date earlier than January 10, 2022,
23 the filing date of the '388 Application.

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26 ¹ Claims 2 and 12 of the '207 Patent, and their respective dependent claims
27 including Asserted claims 3, 5-8, 13, 14, and 19, are invalid under 35 U.S.C. 132.
28 *See* §VI.D.

1 **B. The '766 Patent**

2 Zodiac asserts, in its Preliminary Infringement Contentions, claims 1–5 of the
3 '766 Patent, among which all are independent claims. Representative claim 1 of the
4 '766 Patent recites “a controller (i) positioned **on or in** the body. . . (iii) configured
5 to generate, in response to the captured image, at least one control signal to cause
6 movement of the body within the swimming pool . . . away from, the first portion of
7 the submerged surface.” Asserted claims 2–5 recite similar limitations. The filing
8 date of the application leading to the '766 Patent, U.S. Patent Application No.
9 17/143,624 (“the '624 Application”), is January 7, 2021. The '624 application claims
10 priority, through a series of purported continuation applications, to the '918
11 Application filed July 10, 2012. As explained below, asserted claims 1–5 of the '766
12 Patent are not entitled to the priority date of July 10, 2012.

13 The above-quoted limitation (i) recited in asserted claims 1–5 was not
14 disclosed in the earliest application (the '918 Application); thus, asserted claims 1–5
15 of the '766 Patent are not entitled to a priority date earlier than July 11, 2016, the
16 filing date of next application in line, i.e., U.S. Application No. 15/207,065 (“the '065
17 Application”).

18 Regarding the above-quoted limitation (iii) recited in asserted claims 1–5,
19 throughout the priority chain, the mention of “a controller...(iii) configured to
20 generate, in response to the captured image, at least one control signal to cause
21 movement of the body within the swimming pool . . . **away from**, the first portion of
22 the submerged surface” first appeared in the Preliminary Amendment filed
23 concurrently with the '750 Application on July 2, 2020. Thus, asserted claims 1–5 of
24 the '766 Patent are nonetheless not entitled to a priority date earlier than July 2, 2020,
25 the filing date of the '750 Application.

26 Therefore, asserted claims 1–5 of the '766 Patent are not entitled to a priority
27 date earlier than July 2, 2020, the filing date of the '750 Application. To the extent
28 that Zodiac is later permitted to modify, and in fact modifies in any manner, the

1 alleged priority date for these claims of the '766 Patent, Beatbot reserves the right to
2 respond and challenge that date.

3 C. The '191 Patent

4 Zodiac asserts, in its Preliminary Infringement Contentions, claims 1–3 of
5 the '191 Patent, among which all are independent claims. Asserted claim 1 of the '191
6 Patent recites “a controller (i) positioned **on or in** the body” and “(iii) configured to
7 generate, in response to the captured image, at least one control signal to cause
8 movement of the body within the swimming pool . . . **away from**, the first portion of
9 the submerged surface.” Asserted claim 2 recites the above-quoted limitations (i) and
10 (iii). Asserted claim 3 recites the above-quoted limitation (iii). The filing date of the
11 application leading to the '191 Patent, the '750 Application, is July 2, 2020. The '750
12 application claims priority, through a series of purported continuation applications,
13 to the '918 Application filed July 10, 2012. As explained below, asserted claims 1–3
14 of the '191 Patent are not entitled to the priority date of July 10, 2012.

15 The above-quoted limitation (i) recited in asserted claims 1 and 2 were not
16 disclosed in the earliest application (the '918 Application); thus, claims 1 and 2 are
17 not entitled to a priority date earlier than July 11, 2016, the filing date of the '065
18 Application.

19 Regarding the above-quoted limitation (iii) recited in asserted claims 1–3, the
20 mention of “a controller...(iii) configured to generate, in response to the captured
21 image, at least one control signal to cause movement of the body within the
22 swimming pool . . . **away from**, the first portion of the submerged surface” first
23 appeared in the Preliminary Amendment filed concurrently with the '750 Application
24 on July 2, 2020. Thus, asserted claims 1–3 of the '191 Patent are not entitled to a
25 priority date earlier than July 2, 2020, the filing date of the '750 Application.

26 Therefore, asserted claims 1–3 of the '191 Patent are not entitled to a priority
27 date earlier than July 2, 2020, the filing date of the '750 Application. To the extent
28 that Zodiac is later permitted to modify, and in fact modifies in any manner, the

1 alleged priority date for these claims of the '191 Patent, Beatbot reserves the right to
2 respond and challenge that date.

3 **IV. INTER PARTES REVIEW**

4 All three of the Asserted Patents—the '207, '766, and '191—are the subject of
5 *inter partes* review (“IPR”) proceedings before the U.S. Patent and Trademark Board.
6 The petitions and all associated filings are hereby incorporated herein by reference
7 in their entirety, as are any future petitions for inter partes review filed later against
8 the '207, '766, or '191 Patent.

- 9 • IPR2026-00201 against the '207 Patent, filed by Beatbot;
- 10 • IPR2026-00160 against the '207 Patent, filed by Wybotics Co. Ltd. f/k/a
11 Tianjin Wanguan Environmental Protection and Technology Co., Ltd.
12 (“Wybotics”);
- 13 • IPR2026-00200 against the '766 Patent, filed by Beatbot;
- 14 • IPR2026-00159 against the '766 Patent, filed by Wybotics;
- 15 • IPR2026-00202 against the '191 Patent, filed by Beatbot;
- 16 • IPR2026-00158 against the '191 Patent, filed by Wybotics.

17 **V. THE COMBINATION OF PRIOR ART**

18 In general, a claimed invention is invalid due to obviousness “if the differences
19 between the claimed invention and the prior art are such that the claimed invention
20 as a whole would have been obvious before the effective filing date of the claimed
21 invention to a person having ordinary skill in the art”. 35 U.S.C. § 103; *Graham v.*
22 *John Deere Co.*, 383 U.S. 1, 13-14 (1966). The ultimate determination of whether an
23 invention is or is not obvious is a legal conclusion based on underlying factual
24 inquiries including: (1) the scope and content of the prior art; (2) the level of ordinary
25 skill in the art; (3) the differences between the claimed invention and the prior art;
26 and (4) objective evidence of nonobviousness.
27

1 The U.S. Supreme Court decision in *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct.
2 1727, 1739 (2007) reaffirmed Graham, but further held that a claimed invention can
3 be obvious even if there is no explicit teaching, suggestion, or motivation for
4 combining the prior art to produce that invention. KSR holds that patents based on
5 new combinations of elements or components already known in a technical field may
6 be found to be obvious. The Supreme Court rejected a rigid application of the
7 “teaching, suggestion, or motivation [to combine]” test. “In determining whether the
8 subject matter of a patent claim is obvious, neither the particular motivation or the
9 avowed purpose of the patentee controls. What matters is the objective reach of the
10 claim”. “Under the correct analysis, any need or problem known in the field of
11 endeavor at the time of invention and addressed by the patent can provide a reason
12 for combining the elements in the manner claimed”.

13 The Supreme Court emphasized the principle that “[t]he combination of
14 familiar elements according to known methods is likely to be obvious when it does
15 no more than yield predictable results”. A key inquiry is whether the “improvement
16 is more than the predictable use of prior art elements according to their established
17 functions”. Beatbot contends that one or more of the following rationales apply in
18 considering the obviousness of the Asserted Claims:

- 19 (a) Combining prior art elements according to known methods to yield
20 predictable results.
- 21 (b) Simple substitution of one known element for another to obtain
22 predictable results.
- 23 (c) Use of a known technique to improve similar devices (methods, or
24 products) in the same way.
- 25 (d) Applying a known technique to a known device (method, or product)
26 ready for improvement to yield predictable results.
- 27 (e) “Obvious to try” choosing from a finite number of identified,
28 predictable solutions, with a reasonable expectation of success.

1 (f) Known work in one field of endeavor may prompt variations of it for
2 use in either the same field or a different one based on design incentives
3 or other market forces if the variations would have been predictable to
4 one of ordinary skill in the art.

5 (g) Some teaching, suggestion, or motivation in the prior art that would
6 have led one of ordinary skill to modify the prior art reference or to
7 combine prior art reference teachings to arrive at the claimed invention.

8 *Id.* at 57529. Beatbot contends that one or more of these or other rationales apply in
9 considering the obviousness of the Asserted Claims. Exemplary rationales have been
10 identified in the exemplary combination charts provided as exhibits to Beatbot's
11 Invalidity Contentions.

12 **VI. INVALIDITY CONTENTIONS**

13 Each Asserted Claim is invalid at least for lack of novelty under 35 U.S.C. §
14 102 or obviousness under 35 U.S.C. § 103. Pursuant to Patent Local Rule 3.3(a)–(b),
15 Beatbot identifies herein prior art patents, publications, disclosures, uses, sales, and
16 offers for sale that anticipate or render obvious the Asserted Claims under 35 U.S.C.
17 §§ 102 or 103. Beatbot reserves the right to rely on other references disclosed or
18 incorporated by reference in these Invalidity Contentions, in the prior art identified
19 below, in the Patents-In-Suit or any related patents, in the file histories of the Patents-
20 In-Suit or any related patents, in the invalidity contentions served by any accused
21 infringer in any case involving the Patents-In-Suit or patents related thereto, and in
22 the attached exhibits.

23 Pursuant to Patent Local Rule 3.3(c), Beatbot further attaches charts
24 identifying exemplary prior art that anticipate or render obvious each of the Asserted
25 Claims, set forth in Exhibits A1-A8, B1-B7, and C1-C7. For each Asserted Claim
26 that is anticipated or rendered obvious by an exemplary reference or combination,
27 the corresponding claim chart includes a citation to that reference or combination for
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1 each limitation. Where Beatbot cites to a particular figure in a prior art reference, the
2 citation should be understood to encompass the caption and description of the figure
3 as well as any text relating to the figure in addition to the figure itself. Conversely,
4 where a cited portion of text refers to a figure, the citation should be understood to
5 include the figure as well. Furthermore, while Beatbot has identified at least one
6 citation per limitation present in a reference or combination, each and every
7 disclosure of the same or similar limitation in the same reference or combination is
8 not necessarily identified. In an effort to focus the issues, Beatbot cites only portions
9 of identified references, even where a reference or combination may contain
10 additional support for a particular claim element. Thus, Beatbot may rely on un-cited
11 portions of the prior art references for additional support for a particular element.

12 Beatbot may rely upon other prior art identified in future supplements,
13 corroborating references, documentation, source code, products, testimony, or
14 invalidity contentions served by other accused infringers in cases involving the
15 Patents-In-Suit or patents related thereto, including materials obtained through
16 further investigation and third-party discovery of the prior art identified herein, that
17 demonstrates the invalidating functionality identified in these Invalidity Contentions
18 or that show the state of the art in the relevant time period (irrespective of whether
19 such references themselves qualify as prior art to the Patents-In-Suit), and expert
20 testimony to provide context to or aid in understanding the cited portions of the
21 identified prior art. Similarly, where there are multiple references relating to a single
22 prior art product or system, Beatbot may cite only to a single reference for a particular
23 limitation, even though other references may also contain similar teachings. Thus,
24 Beatbot may rely on un-cited references relating to a particular prior art or system for
25 additional support for a particular element. Any prior art disclosed as anticipating a
26 limitation also renders that limitation obvious.

27 Additionally, persons of ordinary skill in the art generally read a prior art
28 reference as a whole and in the context of other publications and literature. Numerous

1 prior art references, including those identified herein and in the attached exhibits,
2 reflect common knowledge and the state, scope, and content of the prior art before
3 the priority date of the Asserted Claims of the Patents-In-Suit. Beatbot may rely on
4 un-cited portions of the prior art references and on other publications and expert
5 testimony to provide context and as aids to understanding and interpreting the
6 portions that are cited. To the extent any limitation is deemed not to be exactly met
7 by an item or combination of prior art, then any purported differences are such that
8 the claimed subject matter as a whole would have been obvious to one skilled in the
9 art at the time of the alleged invention, in view of the state of the art and knowledge
10 of those skilled in the art.

11 Although Beatbot's investigation is ongoing, one or more of the Asserted
12 Claims is invalid for failure to comply with 35 U.S.C. § 112. Based upon Beatbot's
13 apparent claim interpretations, Beatbot's claims are invalid under 35 U.S.C. § 112
14 for at least the following reasons: (1) the specifications of the Patents-In-Suit lack a
15 written description of the claimed inventions in full, clear, concise, and exact terms
16 as required by 35 U.S.C. § 112(a); (2) the specifications of the Patents-In-Suit lack
17 an enabling disclosure as required by 35 U.S.C. § 112(a); and (3) the Asserted Claims
18 are invalid as indefinite under 35 U.S.C. § 112(b) because the claims fail to
19 particularly point out and distinctly claim the subject matter which the applicants
20 regarded as their invention. In particular, the specifications of one or more of the
21 Patents-In-Suit lack a written description of the alleged invention in full, clear,
22 concise and exact terms as required by 35 U.S.C. § 112(a), and thus fail to provide
23 sufficient information in the original disclosure to show the inventor possessed the
24 invention at the time of the original filing. See *Univ. of Rochester v. Searle & Co.*,
25 358 F.3d 916, 927–28 (Fed. Cir. 2004). Beatbot thus contends that one or more of
26 the Asserted Claims are invalid under 35 U.S.C. § 112(a). Further, the specifications
27 of one or more of the Patents-In-Suit lack an enabling disclosure as required by 35
28 U.S.C. § 112(a). See *Sitrick v. Dreamworks, LLC*, 516 F.3d 993, 1000 (Fed. Cir.

1 2008) (holding that the inventors must set forth sufficient information in the
2 specification to enable one of ordinary skill in the art to make and use the invention
3 without undue experimentation). Beatbot thus contends that one or more of the
4 Asserted Claims of the Patents-In-Suit are not enabled.

5 Additionally, United States patent law requires that a patent contain one or
6 more claims “particularly pointing out and distinctly claiming the subject matter
7 which the applicant regards as his invention”. 35 U.S.C. § 112(b). A claim is
8 considered indefinite, however, if it does not “give notice to the public of the extent
9 of the legal protection offered by the patent, so that interested members of the public,
10 e.g., competitors or the patent owner, can determine whether or not they infringe”.
11 *Default Proof Credit Card Sys. Inc. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291,
12 1302–03 (Fed. Cir. 2005). Such a claim is invalid. *See id.*; *Cardiac Pacemakers, Inc.*
13 *v. St. Jude Med., Inc.*, 296 F.3d 1106, 1114 (Fed. Cir. 2002). Beatbot thus contends
14 that one or more of the Asserted Claims are invalid for failure to satisfy the
15 definiteness requirement of 35 U.S.C. § 112(b). Beatbot also notes that Beatbot’s
16 charting of a prior art reference for a claim or limitation that Beatbot contends is
17 invalid for lack of definiteness in no way represents an admission or concession that
18 the scope of the claim or limitation is definite or ascertainable. All of Beatbot’s
19 disclosures herein are subject to the Preliminary Statement and Reservation of Rights
20 set out above.

21 **A. Invalidity of the Patents-In-Suit Under 35 U.S.C. §§ 102 and 103**

22 Beatbot contends that the prior art references set forth in Exhibits A1-A8, B1-
23 B7, and C1-C7, provided herewith anticipate and/or render obvious each Asserted
24 Claim of the Patents-In-Suit. To the extent that any claim limitation is not anticipated
25 pursuant to 35 U.S.C. § 102, Beatbot contends that the claimed invention would have
26 been obvious to one of ordinary skill under 35 U.S.C. § 103. Each Asserted Claim
27 would have been obvious in view of each reference cited in Exhibits A1-A8, B1-B7,
28 and C1-C7 either alone or combined with the knowledge that was possessed by one

1 of ordinary skill in the art. Additionally, each Asserted Claim would have been
2 obvious to one of ordinary skill in the art in view of the combination of any one of
3 the prior art references identified in Exhibits A1-A8, B1-B7, and C1-C7 with one or
4 more of the other references identified.

5 In particular, those of ordinary skill in the art at the time of the alleged
6 invention of the Patents-In-Suit would have been motivated to modify or combine
7 the prior art references set forth herein because, *inter alia*: (a) the references in
8 general deal with the same or related subject matter; (b) one of ordinary skill in the
9 art would have been motivated by the problem that the inventor was attempting to
10 solve, or with other problems that would have been faced in reaching a solution, and
11 would have looked to references that concerned similar issues or taught how to
12 overcome the problems faced; (c) the combinations were obvious to try and would
13 have operated in their known and expected way; (d) the combinations were within
14 the skill and understanding of a person of ordinary skill in the art; (e) the
15 combinations would have been motivated by the developments in technology; (f) the
16 combinations reflect various design choices that would have been known to one of
17 ordinary skill in the art and within that person's technical capability to implement;
18 and (g) the combinations would enhance commercial opportunities and make the
19 product more desirable, for example, by improving performance, expanding
20 functionality, and/or increasing reliability.

21 The various motivations described above provide a basis for combining or
22 modifying references, as detailed below, to render each of the Asserted Claims
23 obvious. In addition, the Court can consider the inferences and creative steps a person
24 of ordinary skill in the art would employ in making such combinations. See KSR,
25 127 S. Ct. at 1741 ("a court can take account of the inferences and creative steps that
26 a person of ordinary skill in the art would employ").

27 Pursuant to Local Patent Rule 3.3(a), Beatbot identifies the following
28 nonexhaustive list of one or more references or potential combinations of references

that anticipate and/or render obvious each of the Asserted Claims of the Patents-In-Suit:

Country	Prior Art	Issue or Publication Date
US	US3321787	1967-05-30
US	US3972339A	1976-08-03
US	US4168557	1979-09-25
CA	CA1084216A	1980-08-26
CA	CA1116819A	1982-01-26
US	US4338697A	1982-07-13
JP	JPS6162905A	1986-03-31
US	US4581075A	1986-04-08
JP	JPS6162905U	1986-04-28
US	US4651376A	1987-03-24
CA	CA1264509C	1990-01-23
US	US5001800A	1991-03-26
US	US5128031A	1992-07-07
US	US5205174A	1993-04-27
US	US5337434A	1994-08-16
US	US5435031A	1995-07-25
US	US5450644A	1995-09-19
EP	EP0687964A1	1995-12-20
	WO9701689A1	1997-01-16
US	US5613261A	1997-03-25
EP	EP0811432A2	1997-12-10
US	US5842243A	1998-12-01
US	US5886630A	1999-03-23
US	US5893188A	1999-04-13

1	Country	Prior Art	Issue or Publication Date
2		WO9933582A1	1999-07-08
3	US	US6398878B1	2002-06-04
4	FR	FR2817624A1	2002-06-07
5	US	US20020097322A1	2002-07-25
6	US	US20040025268A1	2004-02-12
7		WO2004019295A1	2004-03-04
8	US	US20040040581A1	2004-03-04
9	US	US20040052418A1	2004-03-18
10	US	US20040083570A1	2004-05-06
11	US	US6742613B2	2004-06-01
12	CN	CN1540119A	2004-10-27
13	JP	JP2005304516A	2005-11-04
14	US	US20060053572A1	2006-03-16
15	US	US2006060513A1	2006-03-23
16	US	US7123746B2	2006-10-17
17	US	US20070094817A1	2007-05-03
18	US	US7213287B2	2007-05-08
19	AU	AU2002252660B2	2007-09-20
20	US	US20070242134A1	2007-10-18
21	EP	EP1849934A1	2007-10-31
22	US	US20080048870A1	2008-02-28
23	CN	CN101139007A	2008-03-12
24	FR	FR2896005B1	2008-04-04
25	US	US7362351B2	2008-04-22
26	US	US20080106422A1	2008-05-08
27	US	US7398138B2	2008-07-08
28			

1	Country	Prior Art	Issue or Publication Date
2	EP	EP1947266A2	2008-07-23
3	US	US7427220B2	2008-09-23
4	US	US20080258907A1	2008-10-23
5		WO2009031361A1	2009-03-12
6	US	US7504025B2	2009-03-17
7	DE	DE102007053310A1	2009-06-10
8	CN	CN101481957A	2009-07-15
9	US	US2009301522A1	2009-12-10
10	US	US7690066B2	2010-04-06
11	US	US20100165205A1	2010-07-01
12	US	US20100176956A1	2010-07-15
13	US	US20100259931A1	2010-10-14
14	US	US7839291B1	2010-11-23
15	US	US20100299016A1	2010-11-25
16	US	US20100307545A1	2010-12-09
17	US	US20110049023A1	2011-03-03
18	US	US20110091329A1	2011-04-21
19	EP	EP2314799A1	2011-04-27
20	US	US20110139727A1	2011-06-16
21	US	US7993469B1	2011-08-09
22	US	US7993600B2	2011-08-09
23	US	US8007653B2	2011-08-30
24	US	US20110240382A1	2011-10-06
25	US	US20110264305A1	2011-10-27
26	US	US20110271983A1	2011-11-10
27	US	US20110301752A1	2011-12-08
28			

1	Country	Prior Art	Issue or Publication Date
2	US	US20120006352A1	2012-01-12
3		WO2012023676A1	2012-02-23
4	US	US20120169497A1	2012-07-05
5	US	US8237574B2	2012-08-07
6	US	US20130024025A1	2013-01-24
7	US	US20130151061A1	2013-06-13
8	US	US20130152970A1	2013-06-20
9	US	US2013152317A1	2013-06-20
10	US	US20130269097A1	2013-10-17
11	US	US20140009748A1	2014-01-09
12	US	US20140015959A1	2014-01-16
13	US	US8696821B2	2014-04-15
14	US	US8752226B2	2014-06-17
15	US	US8771504B2	2014-07-08
16	US	US20140263087A1	2014-09-18
17	US	US8869337B2	2014-10-28
18	CN	CN104705240A	2015-06-17
19	EP	EP2771525B1	2015-07-22
20	US	US9091093B2	2015-07-28
21	IL	IL217093	2015-10-01
22	US	US9182228B2	2015-11-10
23	US	US9388595B2	2016-07-12
24	US	US20160319559A1	2016-11-03
25	AU	AU2016257063	2016-11-10
26	JP	JP6162905B2	2017-07-12
27	CN	CN206686944U	2017-12-01
28			

Country	Prior Art	Issue or Publication Date
US	US9880014B2	2018-01-30
US	US20180135325A1	2018-05-17
US	US20180150963A1	2018-05-31
US	US10024073B2	2018-07-17
US	US20180266134A1	2018-09-20
US	US20180341272A1	2018-11-29
US	US20190085579A1	2019-03-21
US	US20190271987A1	2019-09-05
US	US20200333797A1	2020-10-22
US	US20210124366A1	2021-04-29

Literature Title	Journal or Textbook	Publication Date	Authors
Construction of the Control System of Cleaning Robots with Vision Guidance	Mathematical Problems in Engineering	2013-01-01	Tian-Syung Lan et al.
Autonomous Pool Cleaning: Self Localization and Autonomous Navigation for Cleaning	Autonomous Robots	2000-12-01	M. Simoncelli, G. Zunino et al.
Design of cleaning robot for swimming pools	MSIE 2011	2011-01-01	Yuan Fu-cai, Hu Shi-jian et al.

Literature Title	Journal or Textbook	Publication Date	Authors
Development of a Pool Cleaning Robot and its Cleaning Performance Evaluation	The Journal of Korea Robotics Society	2012-11-30	Jinhyuk Kim et al.
Mobile robot society for distributed operations in closed aquatic environment	Robotica	2000-05-01	M. Vainio et al.
Remote-Controlled Inspection Robot for Nuclear Facilities in Underwater Environment	Volume 1: Plant Operations, Maintenance, Engineering, Modifications and Life Cycle; Component Reliability and Materials Issues; Next Generation Systems	2009-01-01	Harunobu Okihana et al.
Autonomous acquisition of environmental oriented behaviour for a distributed autonomous swimming robot	SICE '99. Proceedings of the 38th SICE Annual Conference. International	2003-01-20	D. Iijima et al.

Literature Title	Journal or Textbook	Publication Date	Authors
	Session Papers (IEEE Cat. No.99TH8456)		
Sensor-based Behavior Control for an Autonomous Underwater Vehicle	The International Journal of Robotics Research	2009-05-20	Junaed Sattar et al.
Design of an underwater positioning sensor for crawling ship hull maintenance robots	Proceedings of the Institution of Mechanical Engineers, Part M: Journal of Engineering for the Maritime Environment	2010-02-12	N Tunawattana et al.
Underwater Robotics: Surface Cleaning Technics, Adhesion and Locomotion Systems	International Journal of Advanced Robotic Systems	2016-01-01	Houssam Albitar et al.
Design and Construction of an Autonomous Cleaner	Electronics, Robotics and Automotive Mechanics	2007-09-01	A. Rincon-Suarez et al.

Literature Title	Journal or Textbook	Publication Date	Authors
Robot, for an aquatic environment	Conference (CERMA 2007)		
Design and hydrodynamic simulation analysis on debris cleaning robot underwater	Journal of Physics: Conference Series	2020-05-01	Zhuo Wang et al.
Study and Design of an Autonomous Mobile Robot Applied to Underwater Cleaning	Robotics	2013-09-13	Lafaete Creomar Lima Junior et al.
Study and Design of an Autonomous Mobile Robot Applied to Underwater Cleaning	Advances in Computational Intelligence and Robotics	2013-01-01	Lafaete Creomar Lima Junior et al.
An acquisition of a narrow path going through behavior for a distributed autonomous swimming robot	IEEE SMC'99 Conference Proceedings. 1999 IEEE International Conference on Systems, Man, and Cybernetics	2003-01-20	D. Iijima et al.

Literature Title	Journal or Textbook	Publication Date	Authors
	(Cat. No.99CH37028)		
Computer Vision Applications in the Navigation of Unmanned Underwater Vehicles	Underwater Vehicles	2009-01-01	Jonathan Horgan et al.

If and to the extent Zodiac challenges the correspondence of any of these references with respect to particular limitations of the Asserted Claims of the Patents-In-Suit, Beatbot reserves the right to supplement these Invalidity Contentions to identify additional combinations motivations to modify or explanations for particular references with additional particularity.

Additionally, prior products of certain non-parties constitute prior art to the Patents-In-Suit because they were on sale publicly known and/or publicly used prior to the priority date of the Patents-in-Suit. For example, based on Beatbot's investigations to date Beatbot believes that at least the following systems may alone or in combination with other prior art render the Asserted Claims invalid.

As this case is in its preliminary stages, Beatbot's investigation into the prior art including the prior art systems and products identified above has just begun. Beatbot is continuing its investigation into these products and other companies, and Beatbot may need discovery from these third-parties to further its investigation. Beatbot reserves the right to supplement these Invalidity Contentions to provide

claim charts with regard to these products or systems, identify additional references, combinations, motivations, or to modify explanations for particular references as discovery progresses.

Additionally, the Asserted Claims are invalid over at least the following exemplary prior art combinations, which are discussed in detail in the accompanying charts:

Patent	Prior Art	Chart No.
'207 Patent	Cui	A-1
'207 Patent	Knoll	A-2
'207 Patent	Renaud	A-3
'207 Patent	Fu-007	A-4
'207 Patent	Durvasula-959	A-5
'207 Patent	Durvasula-559	A-6
'207 Patent	Laitta	A-7
'207 Patent	Various	A-8
'191 Patent	Cui	B-1
'191 Patent	Knoll	B-2
'191 Patent	Renaud	B-3
'191 Patent	Fu-007	B-4
'191 Patent	Durvasula-959	B-5
'191 Patent	Durvasula-559	B-6
'191 Patent	Various	B-7
'766 Patent	Cui	C-1
'766 Patent	Knoll	C-2
'766 Patent	Renaud	C-3
'766 Patent	Fu-007	C-4

Patent	Prior Art	Chart No.
'766 Patent	Durvasula-959	C-5
'766 Patent	Durvasula-559	C-6
'766 Patent	Various	C-7

Furthermore, Zodiac has identified—and Beatbot is aware of—no evidence of any indicia of nonobviousness including any long-felt but unsolved need; copying; failure of others; commercial success due to the patented invention; industry praise; unexpected results; industry skepticism; or licensing. To the extent Zodiac attempts to introduce any such evidence, Beatbot reserves the right to respond to such evidence.

B. Invalidity of the Patents-In-Suit Based on 35 U.S.C. § 112

Beatbot contends that various asserted claims of the Patents-In-Suit are invalid for failure to satisfy the enablement or written description requirements of 35 U.S.C. § 112. Beatbot's contentions are based in whole or in part on its present understanding of the Asserted Claims and Zodiac's apparent construction of those claims in its Infringement Contentions. Accordingly, Beatbot's invalidity contentions based upon 35 U.S.C. § 112 may reflect alternative positions as to claim construction and scope. Further, by asserting grounds for invalidity based on Zodiac's apparent claim construction or any other particular claim construction, Beatbot is not adopting Zodiac's claim construction nor admitting to the accuracy of any particular claim construction. Beatbot therefore reserves the right to amend this list.

The specifications of one or more of the Patents-In-Suit lack a written description of the alleged invention in full, clear, concise, and exact terms as required by 35 U.S.C. § 112(a), and thus fail to provide sufficient information in the original disclosure to show the inventor possessed the invention at the time of the original filing. *See Univ. of Rochester v. Searle & Co.*, 358 F.3d 916, 927–28 (Fed. Cir. 2004).

1 Beatbot thus contends that one or more of the Asserted Claims are invalid under 35
2 U.S.C. § 112(a).

3 Further, the specifications of one or more of the Patents-In-Suit lack an
4 enabling disclosure as required by 35 U.S.C. § 112(a). *See Sitrick v. Dreamworks,*
5 *LLC*, 516 F.3d 993, 1000 (Fed. Cir. 2008) (holding that the inventors must set forth
6 sufficient information in the specification to enable one of ordinary skill in the art to
7 make and use the invention without undue experimentation). Beatbot thus contends
8 that one or more of the Asserted Claims of the Patents-In-Suit are not enabled.

9 Beatbot identifies the following exemplary terms and limitations as lacking
10 adequate written description or enablement:

- 11 • “a controller . . . configured to generate, in response to the captured
12 image, at least one control signal to cause movement of the body within
13 the swimming pool . . . away from, the first object/the first portion of
14 the submerged surface” (’207 patent, claim 1; ’191 patent, claims 1-
15 3; ’766 patent, claims 1-5)
- 16 • “at least one piece of equipment for a . . . spa” (’207 patent, claim 2)
- 17 • “the cleaning device configured to travel adjacent to submerged or
18 water-containing surfaces of the . . . spa” (’207 patent, claim 3)
- 19 • “the one or more cameras are mounted external to the . . . spa” (’207
20 patent, claim 4)
- 21 • “the one or more cameras are submergible or submerged within the . . .
22 spa.” (’207 patent, claim 6)
- 23 • “receiving images of at least a portion of a location including a . . . spa
24 from one or more cameras” (’207 patent, claim 12)
- 25 • “the target area comprises a portion of a surface of the . . . spa, and
26 wherein the characteristic comprises a cleanliness characteristic of the
27 portion of the surface of the . . . spa” (’207 patent, claim 13)

- 1 • “generating the control response comprises controlling an operation of
- 2 a piece of equipment of the . . . spa” (’207 patent, claim 14)
- 3 • “generating the control response comprises controlling operation of a
- 4 cleaning device configured to travel adjacent to submerged or water-
- 5 containing surfaces of the . . . spa” (’207 patent, claim 19)
- 6 • “controller . . . positioned on or in the body/vehicle body” (’191 patent,
- 7 claims 1 and 2; ’766 patent, claims 1-5)

8 **C. The Patents-In-Suit Are Directed to Patent-Ineligible Subject**

9 **Matter**

10 The Patents-In-Suit are ineligible for patenting under 35 U.S.C. § 101 because

11 they are directed to abstract ideas and lack an inventive concept.

12 **1. the ’207 Patent**

13 At *Alice* step one, the independent claims 1, 2, and 12 are directed to an abstract

14 idea because they recite the basic functional process of receiving visual data and

15 determining a control action based on that data. This is a result-oriented functional

16 process akin to the abstract ideas found ineligible in *Yu v. Apple Inc.*, 1 F.4th 1040

17 (Fed. Cir. 2021) and those in other cases. The claims merely describe the automation

18 of a mental process—observing a condition and deciding (and generating) on a

19 response—within the generic environment of a pool or spa system. The claim does

20 not recite any particular technical or specific technological method for how the

21 controller determines the “control action” from the “visual data,” focusing instead on

22 the abstract result of the processing.

23 At *Alice* step two, the independent claims 1, 2, and 12 lack a limitation or

24 combination of limitations that constitutes an inventive concept sufficient to

25 transform the abstract idea into patent-eligible subject matter. Under precedents such

26 as *Yu*, the recited components—such as a “vehicle body,” “means for moving,” “at

27 least one camera,” and a “controller”—are conventional, generic digital camera and

28 pool equipment components forming generic, well-known functions at a high level

1 of generality. There is also nothing unconventional about the ordering of the claim
2 limitations that makes them unconventional. Zodiac cannot rely on the abstract idea,
3 or the inherent result of its performance, to supply the required inventive concept.
4 Expert and fact discovery will further establish why the limitations of the claims,
5 individually and in combination, merely recite well-known, routine, conventional
6 components and functions and do no more than apply the abstract idea in a generic
7 setting.

8 The asserted dependent claims of the '207 patent (Claims 3, 5, 6, 7, 8, 13, and
9 14) do not add significantly more to the abstract idea and are themselves directed to
10 well-known, routine, and conventional subject matter. For example:

- 11 • Specifying the piece of equipment as a “cleaning device” (Claim 3) or its
12 configuration to travel on “submerged or water-containing surfaces”
13 (Claim 3) merely identifies a generic field of use for the abstract idea .
- 14 • Mounting cameras “on the at least one piece of equipment” (Claim 5) or
15 making them “submergible” (Claim 6) represents trivial variations in the
16 generic environment for capturing visual data.
- 17 • Reciting the controller is configured to “detect a characteristic” (Claim 7)
18 such as “cleanliness” (Claim 8, 13) merely specifies the type of data being
19 observed, which is an inherently abstract mental process.
- 20 • Functional requirements for “controlling an operation of a piece of
21 equipment” (Claim 14, 19) based on those characteristics are result-
22 oriented limitations that fail to provide a specific technological solution.

23 Any differences in these asserted claims are immaterial trivia and do not
24 change the fact that the claims are directed to an abstract idea applied in a generic
25 setting.

26 **2. The '191 Patent**

27 The '191 patent bears close resemblance to the '207 patent and is similarly
28 directed to patent-ineligible subject matter under 35 U.S.C. § 101.

1 At *Alice* step one, the asserted claims 1–3 are directed to an abstract idea
2 because they recite the basic functional process of capturing an image of a surface
3 and generating a control signal to cause movement based on that image. This is a
4 result-oriented functional process akin to the abstract ideas found ineligible in *Yu v.*
5 *Apple Inc.*, 1 F.4th 1040 (Fed. Cir. 2021) and those in other cases. The claims merely
6 describe the automation of the mental process of looking at a target and deciding to
7 move toward or away from it—applied within the generic environment of a pool
8 cleaning system. The claims do not recite any particular technical or specific
9 technological method for how the controller determines the path or generates the
10 control signal from the captured image, focusing instead on the abstract functional
11 result of the processing.

12 At *Alice* step two, the asserted claims 1–3 lack a limitation or combination of
13 limitations that constitutes an inventive concept sufficient to transform the abstract
14 idea into patent-eligible subject matter. Under precedents such as *Yu*, the recited
15 components—a “vehicle body,” “means for moving,” a “filter,” “at least one
16 camera,” and a “controller”—are conventional, generic digital camera and pool
17 equipment components forming generic, well-known functions at a high level of
18 generality. Placing the camera and controller “on or in the body” (Claims 1–3) does
19 not provide an inventive concept, as this represents routine and conventional
20 engineering design for a self-propelled device. There is nothing unconventional about
21 the ordering of these claim limitations, which simply follow the logical flow of an
22 automated navigation system. Zodiac cannot rely on the abstract idea, or the inherent
23 result of its performance, to supply the required inventive concept.

24 The differences between Claims 1, 2, and 3—such as whether the “filter” or
25 “controller” is part of the “pool cleaner” itself or part of the larger “system”—are
26 immaterial “trivia” to the § 101 analysis. None of these variations change the fact
27 that the claims are directed to an abstract idea or meaningfully alter the focus of the
28 claimed advance.

3. The '766 Patent

The '766 patent, which shares a substantially similar disclosure with the other Patents-In-Suit, is similarly directed to patent-ineligible subject matter under 35 U.S.C. § 101.

At *Alice* step one, the asserted claims 1–5 are directed to an abstract idea because they recite the basic functional process of capturing an image of a surface and generating a control signal to cause movement based on that image. This is a result-oriented functional process akin to the abstract ideas found ineligible in *Yu v. Apple Inc.*, 1 F.4th 1040 (Fed. Cir. 2021) and those in other cases. The claims describe the automation of a mental process—observing a portion of a surface and deciding to move toward or away from it—applied within the generic environment of a pool cleaning system. The claims do not recite any particular technical or specific technological method for how the controller determines the movement path or generates the control signal from the captured image, focusing instead on the abstract functional result of the processing.

At *Alice* step two, the asserted claims 1–5 lack a limitation or combination of limitations that constitutes an inventive concept sufficient to transform the abstract idea into patent-eligible subject matter. Under precedents such as *Yu*, the recited components—a “vehicle body,” “means for moving,” a “filter,” “at least one camera,” and a “controller”—are conventional, generic digital camera and pool equipment components performing generic, well-known functions at a high level of generality. Trivial variations regarding camera mounting—such as being “mounted directly or indirectly” (Claim 1), “carried by” (Claim 2), or “on or in” the body (Claim 3)—represent routine and conventional engineering design choices. Similarly, the addition of a “portable electronic device” (Claim 3) or a “chemical dispenser” (Claim 5) merely adds further generic and conventional components that do not meaningfully alter the focus of the claimed advance. Zodiac cannot rely on

1 the abstract idea, or the inherent result of its performance, to supply the required
2 inventive concept.

3 The differences between the asserted claims 1–5 are immaterial “trivia” to the
4 § 101 analysis. Whether the camera is mounted “directly” or “indirectly” (Claim 1)
5 or whether the controller receives information from a “portable electronic device”
6 (Claim 3) does not change the fact that the claims are directed to an abstract idea
7 applied in a generic setting. Zodiac itself treated these claims as representative of the
8 same purported technology in its Infringement Contentions.

9 **D. Invalidity of Claims 2, 3, 5-8, 12-14, and 19 of the '207 Patent**
10 **Under 35 USCS § 132**

11 Claims 2, 3, 5–8, 12–14, and 19 of the '207 Patent are invalid under 35 U.S.C.
12 § 132 because they rely on new matter introduced during prosecution that lacks
13 support in the original disclosure. Specifically, these claims were amended to include
14 the limitation “spa”, a term that was not present in, and is not supported by, the
15 originally filed specification of the earliest application in this chain, U.S. Application
16 No. 13/545,918 or any other earlier applications.

17 Under 35 U.S.C. § 132(a), “[n]o amendment shall introduce new matter into
18 the disclosure of the invention”. Patent claims are invalidated when they rely on
19 amendments introducing material not inherently contained in the original application.
20 The fundamental inquiry under § 132 is whether the added material was inherently
21 contained in the original disclosure; if the original application does not support the
22 amended matter, the claims are invalid.

23 In this case, the addition of the “spa” limitation during prosecution introduced
24 a new environment and functional application for the pool cleaning system that was
25 not present in the original '918 application. Because the original disclosure treats the
26 invention as specific to swimming pools and does not describe or enable its use in a
27 spa, the introduction of this term constitutes new matter. Consequently, claims 2, 3,
28

1 5–8, 12–14, and 19 are invalid for failing to comply with the statutory prohibition
2 against new matter under 35 U.S.C. § 132.

3
4 Dated: February 9, 2026

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