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9 *Attorneys for Defendant Microsoft Corporation*

10
11 **UNITED STATES DISTRICT COURT**
12 **CENTRAL DISTRICT OF CALIFORNIA**

13 TS-OPTICS CORPORATION,

14 Plaintiff,

15 v.

16 MICROSOFT CORPORATION,

17 Defendant.

Case No. 8:24-cv-01974-DOC-DFM

**DEFENDANT MICROSOFT
CORPORATION'S INITIAL
INVALIDITY CONTENTIONS COVER
SHEET**

JURY TRIAL DEMANDED

18
19 **DEFENDANT MICROSOFT CORPORATION'S INITIAL INVALIDITY**
20 **CONTENTIONS COVER SHEET**

21 Microsoft Corporation ("Microsoft" or "Defendant") hereby provides its Initial Invalidity
22 Contentions ("Invalidity Contentions") pursuant to this Court's Scheduling Order (Dkt. No. 37-
23 1).¹ Plaintiff TS-Optics Corporation ("TS-Optics" or "Plaintiff") asserts U.S. Patent No. 9,612,709

24
25 ¹ Plaintiff indicated in its infringement contentions that the parties agreed to "apply the patent local rules of the
26 Eastern District of Texas." The parties did not reach any agreement that the patent local rules of the Eastern District
Texas will apply to this action, and indeed the parties and Court will follow procedures that differ from those local

1 (“the ’709 patent”) and U.S. Patent No. 7,266,055 (“the ’055 patent”) (collectively “the Asserted
2 Patents”).

3 I. INTRODUCTION

4 A. Asserted Claims

5 Plaintiff asserts infringement of “one or more claims” of the ’709 and ’055 patents. Dkt.
6 No. 14 at ¶¶ 10–12; 18–20. Specifically, Plaintiff served its Preliminary Infringement Contentions
7 on March 28, 2025 (the “Infringement Contentions”) and assert that Microsoft infringes the
8 following claims (the “Asserted Claims”):

9 Patent	Asserted Claims
10 ’709 Patent	1-8
11 ’055 Patent	1-4, 40 and 42-45

12 To the extent Plaintiff is granted leave to amend its contentions to add any claims,
13 Microsoft will serve supplemental invalidity contentions directed at any such additional claims.

14 B. Priority

15 In its Infringement Contentions, Plaintiff asserts that the Asserted Patents are entitled to
16 the following priority dates set forth in the table below:

17 Patent	Priority Date Assessed
18 ’709 Patent	June 22, 2012
19 ’055 Patent	June 2, 2003

20 Microsoft has used these alleged priority dates in preparing these Invalidity Contentions.
21 Plaintiff should not understand Microsoft’s use of these dates as conceding these priority dates, or
22 that the Asserted Patents satisfy the requirements of 35 U.S.C. § 112. Microsoft reserves the right
23 to challenge these, or any other priority claims Plaintiff currently or later asserts.

24 Microsoft notes that the references identified herein pre-date the Asserted Patents’ priority

25

patent rules in numerous respects, including the claim construction briefing procedure that has been established.
26 However, for purposes of these Invalidity Contentions, Microsoft has adhered to the patent local rules of the Eastern
District of Texas.

1 application filing dates. To the extent Plaintiff contends any asserted claim is entitled to any
2 priority benefit earlier than the filing date, Plaintiff bears a burden of production to come forward
3 with evidence of that priority entitlement for that claim. *See, e.g., Mahurkar v. C.R. Bard, Inc.*,
4 79 F.3d 1572, 1576 (Fed. Cir. 1996) (explaining that after defendant identified “a document
5 published about three months before the filing date of [plaintiff’s] patent,” plaintiff “then had the
6 burden to offer evidence showing he invented the subject matter of his patent before the publication
7 date of the document”).

8 **C. Preliminary Statement and Reservation of Rights**

9 These Invalidity Contentions reflect Microsoft’s knowledge and contentions at this time
10 with respect to the Asserted Claims of the ’709 and ’055 patents. These contentions are based on
11 Microsoft’s current knowledge, understanding, and belief as to the facts and information available
12 as of the date of these Invalidity Contentions, including, but not limited to, its current
13 understanding of the Asserted Patents, and Plaintiff’s Infringement Contentions. Discovery is
14 ongoing and Microsoft has not yet completed its investigation, discovery, or analysis of the
15 information related to this action. Microsoft’s search for prior art is ongoing, including potential
16 third-party discovery. Accordingly, Microsoft reserves the right to move to amend, modify,
17 supplement, or otherwise amend, without prejudice, these Invalidity Contentions to address any
18 additional information uncovered by Microsoft, including any newly discovered prior art or new
19 theories of invalidity.

20 Microsoft submits these Invalidity Contentions without waiving or contradicting
21 Microsoft’s positions as to the sufficiency of Plaintiff’s Infringement Contentions. Plaintiff’s
22 Infringement Contentions fail to demonstrate that the Accused Products practice any Asserted
23 Claim. Plaintiff’s Infringement Contentions are in many instances vague regarding the manner in
24 which the Accused Products purportedly practice each element of each Asserted Claim.
25 Microsoft’s Invalidity Contentions are drafted in light of Plaintiff’s Infringement Contentions, to
26 the extent those contentions can be understood. Microsoft reserves the right to modify and

1 supplement its contentions to the extent Plaintiff's infringement positions are clarified during the
2 course of this action, including but not limited to via supplementation, fact discovery, expert
3 discovery, statements by counsel, or otherwise.

4 An infringement analysis ultimately depends, at least in part, on claim construction, which
5 is a question of law reserved for the Court. The claims of the Asserted Patent have not yet been
6 construed; thus, Microsoft has not yet had the opportunity to compare the Asserted Claims of the
7 Asserted Patent (as construed by the Court) to the accused products. Microsoft has therefore
8 attempted to provide a response to the claims as written, although certain claim terms may be
9 further defined or may be deemed indefinite or otherwise deficient by the Court. Microsoft
10 reserves all defenses, including those pursuant to Sections 101 and 112 of the Patent Act, as well
11 as the right to amend, supplement, or materially modify its Invalidity Contentions following, *inter*
12 *alia*, any claim construction order from the Court, any claim construction positions that Plaintiff
13 may take in this case, and/or as new information becomes available during discovery.

14 The prior art references cited in these Invalidity Contentions, which include the attached
15 claim charts, may disclose the elements of the Asserted Claims explicitly and/or inherently, and/or
16 they may be relied upon to show the state of the art in the relevant time frame. Prior art references
17 identified in these Invalidity Contentions, as well as the "References Cited" on the faces of the
18 references and the patents cited within the bodies of the references, may be used to illustrate, but
19 not limit the scope of, the state of the art to which the '709 and '055 patents pertain (*i.e.*, at a time
20 prior to the date of alleged inventions of the Asserted Claims of the '709 and '055 patents).
21 Moreover, Microsoft reserves the right to rely on later identified sources of information, including
22 but not limited to witness testimony and other discovery, to establish the state of the art in the
23 relevant time frame pertaining to the '709 and '055 patents.

24 **D. Scope of Contentions**

25 These Invalidity Contentions disclose the current bases for Microsoft's contentions
26 regarding invalidity, *i.e.*, prior art references under 35 U.S.C. §§ 102 and 103, indefiniteness under

35 U.S.C. § 112, ¶ 2, and lack of written description under 35 U.S.C. § 112, ¶ 1.² Microsoft understands that these contentions are not required to address bases for unenforceability, including improper inventorship or inequitable conduct.

II. Identification of Prior Art That Anticipates or Renders Obvious the Asserted Claims

Listed below are the identities of each item of prior art, presently known to Microsoft, that anticipates the asserted claims of the Asserted Patent and/or renders the claims obvious (alone, in view of the understanding of one or ordinary skill in the art, or in combination with each and any of other references identified below) each Asserted Claim. The list below also includes prior art and other references that disclose various claim limitations or provide background information regarding the claims and/or relevant technology.

Discovery in this case is ongoing, and Microsoft reserves the right to identify additional prior art. Microsoft further reserves the right to rely on additional references, portions of file histories of the Asserted Patents and any related patents, or other evidence to establish the knowledge and skill of a POSITA and/or reasons to combine the disclosure of references. Microsoft further reserves the right to rely on *inter partes* review and *ex parte* reexamination proceedings at the U.S. Patent and Trademark Office related to the Asserted Patents. For example, Microsoft hereby incorporates by reference the petition and any expert declarations and exhibits submitted in connection with an *inter partes* proceeding concerning the '055 patent, IPR2025-00767.

Microsoft's identification below of a patent or patent application should be understood to include an identification of all foreign and domestic counterparts to such patent or patent application, and all file histories and related and cited documents for such patents and patent

² Citations to Title 35 of the United States Code refer to the pre-AIA or AIA version of the Code as specified below. *See* America Invents Act, P.L. 112-29 (Sept. 16, 2011) at §§ 3(n) and 4(e) (amendments to 35 U.S.C. §§ 102 and 103 take effect and apply to applications filed on or after March 16, 2013, and amendments to 35 U.S.C. § 112 take effect and apply to applications filed on or after September 16, 2012).

1 applications. Microsoft reserves the right to rely on any of the material identified below.

2 **Invalidating References for the '709 Patent**

3 Country	Patent No. /	Inventor(s)/	Title	Date of Issuance
4 GB	Publication No.	Author(s)		or Publication
5	GB 2471883	Fok et al.	Controlling A Software Application In A Thin Client Session Using A Mobile Device	January 19, 2011
6				
7	2010/0269039	Pahlavan et al.	Custom Pointer Features For Touch- Screen On Remote Client Devices	October 21, 2010
8				
9	2009/0100129	Vigil et al.	Thin Terminal Computer Architecture Utilizing Roaming Keyboard Files	April 16, 2009
10				
11				
12	20030043564	Hong, Beom Gi	Method and System for Utilizing Mobile Terminal As An Input Device To A Computer	June 2, 2003
13				
14				
15	8,465,367	Zalewski, Gary M.	Playing browser based games with alternative controls and interfaces	June 18, 2013
16				
17				
18	6,213,880	Sim, Wong Hoo	Game Pad Apparatus And Method For Navigation On A Digital Video Disk (DVD) System	April 10, 2001
19				
20	2002/0105504	Toepke, et al.	Soft Input Panel System And Method	August 8, 2002
21				
22	2009/0070098	Patryshev, Vlad	Dynamic Virtual Input Device Configuration	March 12, 2009
23				
24	2008/0288878	Hayashi et al.	Method And Mobile Terminal Device For Mapping A Virtual User Input Interface	November 20, 2008
25				
26				

Country	Patent No. / Publication No.	Inventor(s)/ Author(s)	Title	Date of Issuance or Publication
			To A Physical User Input Interface	
US	2011/0304778	Roberts et al.	Two-Way Remote With Adaptive Character Entry	December 15, 2011
US	2011/0111852	Cohen et al.	Touch Screen Displays With Physical Buttons For Gaming Devices	May 12, 2011
US	2009/0118005	Kelly et al.	Game Related Systems, Methods, And Articles That Combine Virtual And Physical Elements	May 7, 2009
US	10,996,774	Bose et al.	Method And Apparatus For Providing Interoperability Between Devices	May 4, 2021
US	8,200,795	Patil, Pramod P.	Mobile Phone Game Interface	June 12, 2012
US	8,449,393	Sobel et al.	Hand-Held Gaming Device With Configurable Touch Sensitive Panel(S)	May 28, 2013
US	8,650,600	Ogle et al.	Set Top/Back Box, System And Method For Providing A Remote Control Device	February 11, 2014
US	Provisional Application 61/526,446 for US 9,369,820	Jan et al.	Mobile Communication Device And Application Interface Switching Method	---
US	Provisional Application 61/654,638 for US 9,690,465	Tuck et al.	Control Of Remote Applications Using Companion Device	---

Country	Patent No. / Publication No.	Inventor(s)/ Author(s)	Title	Date of Issuance or Publication
US	9,089,768	Vange, Mark	Method And System For Remote Game Display	July 28, 2015
US	9,264,753	Xu, Yanbing	Method And Apparatus For Interactive Control Of Media Players	February 16, 2016
US	2007/0050054	Sambandam Guruparan et al.	Mobile Communication Terminal With Virtual Remote Control	March 1, 2007
US	2008/0120448	Shi et al.	Remote Mouse And Keyboard Using Bluetooth	May 22, 2008
US	2009/0062004	Vedurmudi, Sriharsha	Input Terminal Emulator For Gaming Devices	March 5, 2009
US	2010/0265182	Ball et al.	Context-Based State Change For An Adaptive Input Device	October 21, 2010
US	2010/0299436	Khalid et al.	Methods And Systems For Using External Display Devices With A Mobile Computing Device	November 25, 2010
US	2011/0191516	Xiong et al.	Universal Touch- Screen Remote Controller	August 4, 2011
US	2011/0246902	Tsai et al.	Method For Portable Phones To Control Computers	October 6, 2011
US	2011/0304539	Lee et al.	Remote Controlling Apparatus And Method For Controlling The Same	December 15, 2011
US	2012/0079533	Wong et al.	Techniques For Developing A Customized	March 29, 2012

**DEFENDANT'S INVALIDITY
CONTENTIONS COVER SHEET**

Country	Patent No. / Publication No.	Inventor(s)/ Author(s)	Title	Date of Issuance or Publication
			Television User Interface For A Secondary Device	
US	2012/0159372	Stallings et al.	Remote Control Emulation Methods And Systems	June 21, 2012
US	2012/0081287	Kim et al.	Mobile Terminal And Application Controlling Method Therein	April 5, 2012
US	2013/0016048	So et al.	Mobile Terminal	January 17, 2013
US	2013/0127738	Miller et al.	Dynamic Scaling Of Touch Sensor	May 23, 2013
US	2013/0187886	Ishii, Makoto	Information Processing System, Information Processing Method, Information Processing Program, And Computer- Readable Recording Medium On Which Information Processing Program Is Stored	July 25, 2013
US	2013/0196765	Wolff- Petersen et al.	Method And Apparatus For Adapting Applications Over Multiple Devices	August 1, 2013
US	2013/0215005	Senanayake et al.	Method For Adaptive Interaction With A Legacy Software Application	August 22, 2013
US	2014/0229847	Park, Jihwan	Input Interface Controlling Apparatus And Method Thereof	August 14, 2014

Country	Patent No. / Publication No.	Inventor(s)/ Author(s)	Title	Date of Issuance or Publication
US	2008/0307096	Wang et al.	Using A Remote Handheld Device As A Local Device	December 11, 2008
CN	CN 102209146	Wang, Shengbin	System And Method For Simulating Joystick Of Panel Computer On Smart Mobile Phone	October 5, 2011
EP	EP 2175347	Zhou, Ye	Method For Producing A Mapping Tool, A Pc Game Having The Mapping Tool And Operation Method Therefor	April 14, 2010
KR	KR 1020090124872	Kim et al.	Method For Controlling Interface	December 3, 2009
KR	KR 1020100028981	Kim, Jin Sik	Apparatus And Method For Providing Virtual Pc Using Broadcasting Receiver And Mobile Terminal	March 15, 2010
KR	KR 1020110134810	Woong, Baek Ki	A Remote Controller And A Method For Remote Controlling A Display	December 15, 2011
WO	2001023994	Sagar et al.	Handheld Retrieves UI From Server For Control Of Apparatus Via Server	April 5, 2001

Each of the above references qualifies as prior art under one or more subsections of pre-AIA 35 U.S.C. § 102. Microsoft reserves the right to supplement and/or revise these contentions should Plaintiff assert that the Asserted Patents are entitled to different priority dates than identified above.

Non-Patent Prior Art Publications for the '709 Patent

Reference Title	Author/Publisher	Publication Date
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A Smart MVC -iTV Framework for Interactive TV	S.C. Wang, C.T. Chih, and K.Q. Yan	2009
A Networked Service for the Remote Execution of Interactive Multimedia Applications	Ola Mogstad	July 2008

Product Prior Art for the '709 Patent³

Company	Product	Approximate Date of Sale, In Public Use, or Otherwise Available
Rovio Entertainment	Angry Birds Videogame	At least as early as June 2011
Microsoft	Windows' GetMessage()	At least as early as 1990
Microsoft	Remote Desktop Protocol	Late 1990s
N/a	X Window System (X11) input stack	At least as early as 1993

Invalidating References for the '055 Patent

Country	Patent No. / Publication No.	Inventor(s)/ Author(s)	Title	Date of Issuance or Publication
JP	JPS 58205934 A	Nishi et al.	Optical head	December 1, 1983
JP	JPH 04113524 A	Ogata, Hiroshi	Supporter for driving lens	April 15, 1992
US	5,194,721	Chu, Ching	Optical scanner	March 16, 1993
JP	JPH 06124467 A	Owaki et al.	Object-lens driving gear	May 6, 1994
US	5,317,552	Yamasaki, Hideo	Linear actuator for driving an optical head incorporated in an optical disk	May 31, 1994
JP	JPH 06251405 A	Murakami, Yutaka	Optical disk device	September 9, 1994
US	5,555,228	Izuka, Takashi	An optical head having a vertical flat plate shaped magnetic circuit	September 10, 1996

³ Detailed information regarding these and other prior art products has not yet been discovered by Microsoft. Microsoft reserves the right to supplement its contentions to the extent discovery or other investigation reveals information regarding these or other potentially invalidating prior art products.

Country	Patent No. / Publication No.	Inventor(s)/ Author(s)	Title	Date of Issuance or Publication
			containing a tracking coil and a focusing coil	
JP	JP 2559161 B2	Ogata, Hiroshi	Supporter for driving lens	December 4, 1996
US	5,748,580	Matsui, Tsutomu	Objective lens actuator for optical head	May 5, 1998
JP	JPH 11203697 A	Kamata, Shigeyuki	Actuator device for optical pickup	July 30, 1999
US	5,949,590	Hong, Sung Pyo	Actuator for optical pickup apparatus	September 7, 1999
JP	JP 2965175 B2	Naraoka, Koji	Optical head	October 18, 1999
JP	JP 2000123386 A	Miura et al.	Object lens driving device	April 28, 2000
KR	KR 20000043284 A	Lee, Geun Jong	Optical pickup actuator having magnetic shaft	July 15, 2000
JP	JP 2000276749 A	Kato et al.	Objective lens drive	October 6, 2000
JP	JP 2001052346 A	Inada et al.	Optical pickup adjusting mechanism	February 23, 2001
JP	JP 2001118269 A	Sugiyama et al.	Objective lens driving device	April 27, 2001
KR	KR 20010038068 A	Choi, Han Guk et al.	Optical pickup assembly	May 15, 2001
JP	JP 2001273655 A	Kono, Noriyuki	Objective lens driving device for optical pickup	October 5, 2001
US	2002/0006090	Kawano, Noriyuki	Objective lens drive apparatus for use in optical pickup	January 17, 2002
US	6,343,053	Akanuma et al.	Objective lens driving apparatus for driving an objective lens of an optical disk drive	January 29, 2002

Country	Patent No. / Publication No.	Inventor(s)/ Author(s)	Title	Date of Issuance or Publication
US	6,344,936	Santo et al.	Objective lens driving apparatus	February 5, 2002
KR	KR 20020045022 A	Choi, Han Guk et al.	Optical pickup assembly	June 19, 2002
WO	WO 2003001518 A1	Kato et al.	Objective lens drive device, optical pickup device, and optical information recording and/or reproducing device	January 3, 2003
US	2003/0007430	Ikeda et al.	Objective lens driver and disk drive device comprising the same	January 9, 2003
US	2003/0011900	Song et al.	Optical pickup actuator driving method and apparatus therefor	January 16, 2003
JP	JP 2003045054 A	Iijima, Akira	Optical pickup	February 14, 2003
KR	KR 100366407 B1	Choi, In Ho	Actuator for optical pickup and optical pickup device using the same	March 3, 2003
US	2003/0058550	Ju, Chae	Position control unit for lens of optical pickup device	March 27, 2003
US	2003/0067848	Kabasawa et al.	Optical pickup apparatus	April 10, 2003

Each of the above references qualifies as prior art under one or more subsections of pre-AIA 35 U.S.C. § 102. Microsoft reserves the right to supplement and/or revise these contentions should Plaintiff assert that the Asserted Patents are entitled to different priority dates than identified above.

III. Invalidity Under 35 U.S.C. §§ 102 & 103

As explained below, and in the referenced claim charts, the Asserted Claims are invalid for anticipation and/or obviousness. In some instances, Microsoft may have treated certain prior art

1 as anticipatory where certain elements are expressly, implicitly, or inherently present based on
2 Plaintiff's apparent claim construction in Plaintiff's Infringement Contentions. Microsoft reserves
3 the right to contend that each of the anticipatory references renders the claims obvious in view of
4 the reference, either alone or in combination with other references. The identification of any patent
5 application should be deemed an identification of any counterpart patent or application; the
6 identification of any article should be deemed a disclosure of any substantially similar article if
7 published in some other form; and the identification of any patent or article should be deemed an
8 identification of any product described therein.

9 **A. '709 Patent**

10 The table below correlates exhibit numbers to the prior art items that Microsoft presently
11 asserts anticipate and/or render obvious the Asserted Claims.

12 **Charted Prior Art References for the '709 Patent**

Exhibit	Base Prior Art Reference / System
A-1	GB 2471883 ("Fok")
A-2	U.S. Patent Application 2010/0269039 A1 ("Pahlavan")
A-3	U.S. Patent Application 2009/0100129 A1 ("Vigil")
A-4	KR 20030043564 A ("Hong")
A-5	103 Obviousness References Combinations

16 These Exhibits include citations to exemplary disclosures in the prior art references. Other
17 portions of the identified prior art may either, expressly or inherently, anticipate and/or render
18 obvious one or more elements of the Asserted Claims. The citations provided are merely non-
19 limiting examples and should not be understood to preclude Microsoft from relying on other prior
20 art references or portions thereof. It should also be recognized that a person of ordinary skill in
21 the art would generally read a prior art reference as a whole and in the context of other publications,
22 literature, and general knowledge in the field. To understand and interpret any specific statement
23 or disclosure in a prior art reference, a person of ordinary skill in the art would rely upon other
24 information, including other publications and general scientific, engineering, or other technical
25 knowledge. Microsoft reserves the right to rely on any portion of the identified prior art, additional
26 documents that describe the prior art, additional prior art, additional documents that lend context

1 to the prior art, and fact witness and/or expert testimony to demonstrate the invalidity of the
2 Asserted Claims and/or to aid in understanding of the cited portions of the identified prior art.

3 Where Microsoft cites to a particular drawing or figure in the claim charts, the citation
4 encompasses not only the drawing or figure, but also any corresponding text within the
5 specification of the prior art reference associated with the drawing or figure. Similarly, where
6 Microsoft cites to particular text of the specification that relates to or references a drawing or figure
7 in a prior art reference, the citation should be understood to encompass not only the text, but also
8 the drawing or figure associated with that reference.

9 Microsoft has included exemplary contentions regarding why one of ordinary skill in the
10 art would be motivated to combine specific references. These examples are intended to be non-
11 limiting. To the extent that Plaintiff contends that any of the prior art fails to disclose one or more
12 limitations of the Asserted Claims, Microsoft reserves the right to identify portions of the
13 aforementioned references and additional prior art references that, when combined with other
14 portions of the identified prior art references, would render each and every limitation of the
15 Asserted Claims obvious.

16 Microsoft asserts that the items of prior art identified above in connection with Exhibits A-
17 1 to A-4, anticipate one or more of the Asserted Claims. The specific basis for the anticipation
18 contention for each of the below references is set forth in the claim charts referenced below.

- 19 1. Fok anticipates claims 1-8. *See* Ex. A-1.
- 20 2. Pahlavan anticipates claims 1-8. *See* Ex. A-2.
- 21 3. Vigil anticipates claims 1-8. *See* Ex. A-3.
- 22 4. Hong anticipates claims 1-8. *See* Ex. A-4.

23 Microsoft asserts that at least the combinations of prior art identified below render obvious
24 one or more of the Asserted Claims. Microsoft further asserts that the items of prior art identified
25 above in connection with Exhibit A-5 render obvious one or more of the Asserted Claims in view
26 of their own disclosures and the knowledge, skill, and experience of a person of ordinary skill in
the art. The identification of combinations below should not be taken to mean that the

1 combinations are necessarily required to prove invalidity. To the contrary, certain claims may be
2 anticipated under one claim interpretation and obvious under another. Further, if any element
3 should be found to be missing from a particular item of prior art, Microsoft asserts that item of
4 prior art could be combined with other items of prior art that disclose that element.

5 1. Fok renders obvious claims 1-8, alone or in combination with each of Zalewski,
6 and/or Sim. *See* Ex. A-1, including the specific motivation to combine Fok with
7 these other references for specific limitations.

8 2. Pahlavan renders obvious claims 1-8, alone or in combination with Fok or other
9 references. *See* Ex. A-2, including the specific motivation to combine Pahlavan
10 with these other references for specific limitations.

11 3. Vigil renders obvious claims 1-8, alone or in combination with Fok or other
12 references. *See* Ex. A-3, including the specific motivation to combine Vigil with
13 these other references for specific limitations.

14 4. Hong renders obvious claims 1-8, alone or in combination with Fok, Pahlavan,
15 Vigil, or other references with similar disclosures. *See* Ex. A-4, including the
16 specific motivation to combine Hong with these other references for specific
17 limitations.

18 As set forth in the above charts, a person of ordinary skill in the art would have been
19 motivated to make the above referenced combinations and would have had a reasonable
20 expectation of successfully obtaining the claimed subject matter. Each of the references cited in
21 an above-identified combination relates to aspects of making, using, and/or enabling the operation
22 of a mobile terminal-based virtual game controller and remote-control system. Specific
23 motivations to combine for each combination of prior art references may be found in the charts
24 attached hereto.

25 The combined teachings of these references, the knowledge of one of ordinary skill in the
26 art at the time of the alleged invention, and the nature of the problem to be solved as a whole,
would have suggested the alleged invention to one of ordinary skill in the art, as well as a

1 reasonable likelihood of success in making the above-referenced combinations. The combinations
2 would constitute, at least combining prior art elements according to known methods to yield
3 predictable results, a simple substitution of one known element for another to obtain predictable
4 results, the use of a known technique to improve similar devices in the same way, the application
5 of a known technique to a known device ready for improvement to yield a predictable result, and
6 obvious to try. The combinations could have been achieved by a person having ordinary skill in
7 the art with a reasonable expectation of success.

8 **B. '055 Patent**

9 The table below correlates exhibit numbers to the prior art items that Microsoft presently
10 asserts anticipate and/or render obvious the Asserted Claims.

11 **Charted Prior Art References for the '055 Patent**

Exhibit	Base Prior Art Reference / System
B-1	KR 20010038068 A ("Choi1")
B-2	U.S. Patent No. 5,317,552 ("Yamasaki")
B-3	JP 2965175 B2 ("Naraoka")
B-4	JPH 06251405 A ("Murakami")
B-5	KR 20020045022 A ("Choi2")
B-6	JP 2000276749 A ("Kato")
B-7	U.S. Patent No. 6,344,936 ("Santo")
B-8	JP 2001118269 A ("Sugiyama")
B-9	JPH 04113524 A ("Ogata")
B-10	103 Obviousness References Combinations

18 These Exhibits include citations to exemplary disclosures in the prior art references. Other
19 portions of the identified prior art may either, expressly or inherently, anticipate and/or render
20 obvious one or more elements of the Asserted Claims. The citations provided are merely non-
21 limiting examples and should not be understood to preclude Microsoft from relying on other prior
22 art references or portions thereof. It should also be recognized that a person of ordinary skill in
23 the art would generally read a prior art reference as a whole and in the context of other publications,
24 literature, and general knowledge in the field. To understand and interpret any specific statement
25 or disclosure in a prior art reference, a person of ordinary skill in the art would rely upon other
26 information, including other publications and general scientific, engineering, or other technical

1 knowledge. Microsoft reserves the right to rely on any portion of the identified prior art, additional
2 documents that describe the prior art, additional prior art, additional documents that lend context
3 to the prior art, and fact witness and/or expert testimony to demonstrate the invalidity of the
4 Asserted Claims and/or to aid in understanding of the cited portions of the identified prior art.

5 Where Microsoft cites to a particular drawing or figure in the claim charts, the citation
6 encompasses not only the drawing or figure, but also any corresponding text within the
7 specification of the prior art reference associated with the drawing or figure. Similarly, where
8 Microsoft cites to particular text of the specification that relates to or references a drawing or figure
9 in a prior art reference, the citation should be understood to encompass not only the text, but also
10 the drawing or figure associated with that reference.

11 Microsoft has included exemplary contentions regarding why one of ordinary skill in the
12 art would be motivated to combine specific references. These examples are intended to be non-
13 limiting. To the extent that Plaintiff contends that any of the prior art fails to disclose one or more
14 limitations of the Asserted Claims, Microsoft reserves the right to identify portions of the
15 aforementioned references and additional prior art references that, when combined with other
16 portions of the identified prior art references, would render each and every limitation of the
Asserted Claims obvious.

17 Microsoft asserts that the items of prior art identified above in connection with Exhibits B-
18 1 to B-9, anticipate one or more of the Asserted Claims. The specific basis for the anticipation
19 contention for each of the below references is set forth in the claim charts referred below.

- 20 1. Choi1 anticipates claims 1-4, 40 and 42-45. *See* Ex. B-1.⁴
- 21 2. Yamasaki anticipates claims 1-4, 40 and 42-45. *See* Ex. B-2.
- 22 3. Naraoka anticipates claims 1-4, 40 and 42-45. *See* Ex. B-3.
- 23 4. Murakami anticipates claims 1-4, 40 and 42-45. *See* Ex. B-4.
- 24 5. Choi2 anticipates claims 1-4, 40 and 42-45. *See* Ex. B-5.

25 ⁴ Microsoft further incorporates by reference its petition in IPR2025-00767, and any expert declarations and exhibits
26 it submits in that proceeding. The primary grounds of invalidity asserted by Microsoft in that IPR include prior art
that is also addressed in this and other claim charts included herein.

6. Kato anticipates claims 1-4, 40 and 42-45. *See* Ex. B-6.
7. Santo anticipates claims 1-4, 40 and 42-45. *See* Ex. B-7.
8. Sugiyama anticipates claims 1-4, 40 and 42-45. *See* Ex. B-8.
9. Ogata anticipates claims 1-4, 40 and 42-45. *See* Ex. B-9.

Microsoft asserts that at least the combinations of prior art identified below render obvious one or more of the Asserted Claims. Microsoft further asserts that the items of prior art identified above in connection with Exhibit B-10 render obvious one or more of the Asserted Claims in view of their own disclosures and the knowledge, skill, and experience of a person of ordinary skill in the art. The identification of combinations below should not be taken to mean that the combinations are necessarily required to prove invalidity. To the contrary, certain claims may be anticipated under one claim interpretation and obvious under another. Further, if any element should be found to be missing from a particular item of prior art, Microsoft asserts that item of prior art could be combined with other items of prior art that disclose that element.

1. Choi1 renders obvious claims 1-4, 40 and 42-45, alone or in combination with each of Yamasaki, Naraoka, Murakami, Choi2, Kato, Santo, Sugiyama, or Ogata, and other references with similar disclosures. The motivation to combine Choi1 with each of the above references is set forth in Ex. B-1. *See* Ex. B-1, including the specific motivation to combine Choi1 with:

- Yamasaki or Naraoka or Ogata for limitation 1[e];
- Choi2 or Kato for limitation 1[f];
- Santo for limitation 40(f);
- Santo or Ogata or Kawano (*See* Ex. B-10) for dependent claim 42;
- Naraoka or Choi2 or Santo for dependent claim 43;
- Murakami or Choi2 for dependent claim 44; and
- Choi2 or Song (*See* Ex. B-10) for dependent claim 45.

2. Yamasaki renders obvious claims 1-4, 40 and 42-45, alone or in combination with each of Choi1, Naraoka, Murakami, Choi2, Kato, Santo, Sugiyama, or Ogata, and

1 other references with similar disclosures. The motivation to combine Yamasaki
2 with each of the above references is set forth in Ex. B-2. *See* Ex. B-2, including
3 the specific motivation to combine Yamasaki with:

- 4 • Naraoka or Ogata for limitation 1[e];
- 5 • Naraoka or Santo or Kawano (*See* Ex. B-10) for limitation 40(c);
- 6 • Choi1 or Santo for limitation 40(f);
- 7 • Choi1 or Santo or Ogata or Kawano (*See* Ex. B-10) for dependent claim
8 42;
- 9 • Naraoka or Choi2 or Santo for dependent claim 43;
- 10 • Murakami or Choi2 for dependent claim 44; and
- 11 • Choi2 or Song (*See* Ex. B-10) for dependent claim 45.

12 3. Naraoka renders obvious claims 1-4, 40 and 42-45, alone or in combination with
13 each of Choi1, Yamasaki, Murakami, Choi2, Kato, Santo, Sugiyama, or Ogata, and
14 other references with similar disclosures. The motivation to combine Naraoka with
15 each of the above references is set forth in Ex. B-3. *See* Ex. B-3, including the
16 specific motivation to combine Yamasaki with:

- 17 • Yamasaki or Ogata for limitation 1[e];
- 18 • Kato or Ogata for dependent claim 2; and
- 19 • Choi1 or Santo or Ogata or Kawano (*See* Ex. B-10) for dependent claim
20 42.

21 4. Murakami renders obvious claims 1-4, 40 and 42-45, alone or in combination with
22 each of Choi1, Yamasaki, Naraoka, Choi2, Kato, Santo, Sugiyama, or Ogata, and
23 other references with similar disclosures. The motivation to combine Murakami
24 with each of the above references is set forth in Ex. B-4. *See* Ex. B-4, including
the specific motivation to combine Murakami with:

- 25 • Yamasaki or Naraoka or Ogata for limitation 1[e];
- 26 • Choi2 or Kato for limitation 1[f];

- Choi1 or Santo or Ogata or Kawano (*See* Ex. B-10) for dependent claim 42; and
- Naraoka or Choi2 or Santo for dependent claim 43.

5. Choi2 renders obvious claims 1-4, 40 and 42-45, alone or in combination with each of Choi1, Yamasaki, Naraoka, Murakami, Kato, Santo, Sugiyama, or Ogata, and other references with similar disclosures. The motivation to combine Choi2 with each of the above references is set forth in Ex. B-5. *See* Ex. B-5, including the specific motivation to combine Choi2 with:

- Yamasaki or Naraoka or Ogata for limitation 1[e]; and
- Choi1 or Santo or Ogata or Kawano (*See* Ex. B-10) for dependent claim 42.

6. Kato renders obvious claims 1-4, 40 and 42-45, alone or in combination with each of Choi1, Yamasaki, Naraoka, Murakami, Choi2, Santo, Sugiyama, or Ogata, and other references with similar disclosures. The motivation to combine Kato with each of the above references is set forth in Ex. B-6. *See* Ex. B-6, including the specific motivation to combine Kato with:

- Choi1 or Santo or Ogata or Kawano (*See* Ex. B-10) for dependent claim 42;
- Murakami or Choi2 for dependent claim 44; and
- Choi2 or Song (*See* Ex. B-10) for dependent claim 45.

7. Santo renders obvious claims 1-4, 40 and 42-45, alone or in combination with each of Choi1, Yamasaki, Naraoka, Murakami, Choi2, Kato, Sugiyama, or Ogata, and other references with similar disclosures. The motivation to combine Santo with each of the above references is set forth in Ex. B-7. *See* Ex. B-7, including the specific motivation to combine Santo with:

- Choi1 or Yamasaki for limitation 1[d];
- Yamasaki or Naraoka or Ogata for limitation 1[e];

- Kato or Ogata for dependent claim 2; and
- Choi1 for limitation 40(f); and
- Choi1 or Ogata or Kawano (*See* Ex. B-10) for dependent claim 42.
- Choi2 or Song (*See* Ex. B-10) for dependent claim 45.

8. Sugiyama renders obvious claims 1-4, 40 and 42-45, alone or in combination with each of Choi1, Yamasaki, Naraoka, Murakami, Choi2, Kato, Santo, or Ogata, and other references with similar disclosures. The motivation to combine Sugiyama with each of the above references is set forth in Ex. B-8. *See* Ex. B-8, including the specific motivation to combine Sugiyama with:

- Yamasaki or Naraoka or Ogata for limitation 1[e];
- Naraoka or Santo or Kawano (*See* Ex. B-10) for limitation 40(c);
- Choi1 or Santo for limitation 40(f); and
- Choi1 or Santo or Ogata or Kawano (*See* Ex. B-10) for dependent claim 42.

9. Ogata renders obvious claims 1-4, 40 and 42-45, alone or in combination with each of Choi1, Yamasaki, Naraoka, Murakami, Choi2, Kato, Santo, or Sugiyama, and other references with similar disclosures. The motivation to combine Ogata with each of the above references is set forth in Ex. B-9. *See* Ex. B-9, including the specific motivation to combine Ogata with:

- Yamasaki or Naraoka for limitation 1[e];
- Choi2 or Kato for limitation 1[f];
- Choi1 or Santo or Kawano (*See* Ex. B-10) for dependent claim 42.
- Naraoka or Choi2 or Santo for dependent claim 43;
- Murakami or Choi2 for dependent claim 44; and
- Choi2 or Song (*See* Ex. B-10) for dependent claim 45.

A person of ordinary skill in the art would have been motivated to make the above referenced combinations and would have had a reasonable expectation of successfully obtaining

1 the claimed subject matter. Each of the references cited in an above-identified combination relates
2 to aspects of making, using, and/or enabling the operation of a mobile terminal-based virtual game
3 controller and remote-control system. Specific motivations to combine for each combination of
4 prior art references may be found in the charts attached hereto.

5 The combined teachings of these references, the knowledge of one of ordinary skill in the
6 art at the time of the alleged invention, and the nature of the problem to be solved as a whole,
7 would have suggested the alleged invention to one of ordinary skill in the art, as well as a
8 reasonable likelihood of success in making the above-referenced combinations. The combinations
9 would constitute, at least combining prior art elements according to known methods to yield
10 predictable results, a simple substitution of one known element for another to obtain predictable
11 results, the use of a known technique to improve similar devices in the same way, the application
12 of a known technique to a known device ready for improvement to yield a predictable result, and
13 obvious to try. The combinations could have been achieved by a person having ordinary skill in
14 the art with a reasonable expectation of success.

15 **IV. Invalidity Under Pre-AIA 35 U.S.C. § 112**

16 **A. Non-Enablement**

17 As detailed below, the Asserted Claims are indefinite under 35 U.S.C. § 112 ¶ 1. “To be
18 enabling, the specification of a patent must teach those skilled in the art how to make and use the
19 full scope of the claimed invention without undue experimentation.” *Trs. of Bos. Univ. v. Everlight*
Elects. Co., 896 F.3d 1357, 1362 (Fed. Cir. 2018).

20 At least the following claim terms, phrases, or limitations are not enabled because the
21 specification fails to provide a sufficient description of the claimed invention to permit or enable
22 a person of ordinary skill in the art to make and use the claimed invention.

23 **1. '709 Patent**

24 **“an application running on the computer” / “the application” (claims 1-8)**

25 The specification does not enable the full scope of asserted claims 1-8 of the '709 Patent,
26 which recite “an application running on the computer” and “the application.” Because the full

1 scope of the claim must be enabled, the patent must enable a POSITA to make and use the full
2 scope of the claimed invention. The full scope of the claimed invention would include an
3 “application,” which is not confined to a particular type of application but, instead, as drafted
4 would include any application. For example, the specification states: “Although the game
5 application 30 is referred to for the sake of illustration, the present invention is not limited to game
6 applications, but may be applied to any types of applications that require users to remotely control
7 functions and operations of the applications somewhat apart from screens.” ’709 Patent at 5:8-14.
8 The patent does not provide any direction or guidance about how to make and use the claimed
9 inventions as all such “application[s].” In addition, there are no working examples as to each of
10 the encompassed types of “application[s].” Thus, all asserted claims are invalid for non-
11 enablement.

12 **“a computer” / “the computer” (claims 1-8)**

13 The specification does not enable the full scope of asserted claims 1-8 of the ’709 Patent,
14 which recite “a computer” and “the computer.” Because the full scope of the claim must be
15 enabled, the patent must enable a POSITA to make and use the full scope of the claimed invention.
16 The full scope of the claimed invention would include a “computer,” which is not confined to a
17 particular type of “computer” but, instead, as drafted would include any “computer.” For example,
18 the specification only refers to “a personal computer” or a “remote computer.” *See, e.g.*, ’709
19 Patent at 1:21, 1:29, 1:56, 4:32, 4:41, 4:60-61, 4:64, 5:1, 5:49, 6:17-22, 7:50, 8:18, 8:21, 8:32-47,
20 8:62-64, 9:1-9, 9:37. In addition, Plaintiff’s apparent interpretation of the asserted claims is that
21 they are broad enough to encompass an Xbox game console. Yet, the patent does not provide any
22 direction or guidance about how to make and use the claimed inventions as to all such
23 “computer[s].” In addition, there are no working examples as to each of the encompassed types
24 of “computer[s].” Thus, all asserted claims are invalid for non-enablement.

25 **2. ’055 Patent**

26 **“a pair of first coils...facing each other” (claim 1)**

Claim 1 of the ’055 patent requires “*wherein the coil comprises a pair of first coils*”

1 *positioned on the blade in a first direction and facing each other with respect to the objective lens.”*
2 However, the ’055 patent specification does not provide sufficient disclosure to teach those skilled
3 in the art how to make and use such pair of coils “*facing each other*” recited in the claim. For
4 example, the “summary” portion of the patent parrots claim language including this phrase, but it
5 does not provide a POSITA with any instruction as to how implement the claimed function or
6 which disclosed structures or other structures perform the claimed function. There is no guidance
7 or direction elsewhere in the specification, and there are no working examples. Therefore,
8 independent claim 1 and all claims depending on claim 1—i.e., claims 2-4— are invalid for lack
9 of enablement.

10 **“unipolar magnets” (claim 40)**

11 Claim 40 of the ’055 patent requires “*a pair of unipolar magnets positioned on the base;*
12 *and a plurality of coils connected to an electric circuit and interacting with the unipolar magnets*
13 *to create an electromagnet force to move the blade.”* However, the ’055 patent specification does
14 not provide sufficient disclosure to teach those skilled in the art how to make and use such
15 “*unipolar magnets*” recited in the claim. There is no guidance or direction elsewhere in the
16 specification, and there are no working examples. Therefore, independent claim 40 and all claims
17 depending on claim 40—i.e., claims 42-45 are invalid for lack of enablement.

18 **B. Lack of Written Description (Pre-AIA 35 U.S.C. § 112, ¶ 1)**

19 The specification of a patent must “contain a written description of the invention.” 35
20 U.S.C. § 112, ¶ 1. A test for written description is “whether the disclosure of the application relied
21 upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed
22 subject matter as of the filing date.” *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351
(Fed. Cir. 2010) (en banc).

23 **1. ’709 Patent**

24 **“an application running on the computer” / “the application” (claims 1-8)**

25 The ’709 Patent fails to reasonably convey to a POSITA that the applicants actually
26

1 invented or “possessed” the claimed inventions recited in asserted claims 1-8 of the ’709 Patent,
2 which recite “an application running on the computer” and “the application. The full scope of the
3 claimed invention would include an “application,” which is not confined to a particular type of
4 application but, instead, as drafted would include any application. For example, the specification
5 states: “Although the game application 30 is referred to for the sake of illustration, the present
6 invention is not limited to game applications, but may be applied to any types of applications that
7 require users to remotely control functions and operations of the applications somewhat apart from
8 screens.” ’709 Patent at 5:8-14. For the written description to be adequate then, it must describe
9 the claimed inventions as to any “application.” But the patent’s specification nowhere contains
10 that description. Thus, all asserted claims are invalid for lack of written description.

11 **“a computer” / “the computer” (claims 1-8)**

12 The ’709 Patent fails to reasonably convey to a POSITA that the applicants actually
13 invented or “possessed” the claimed inventions recited in asserted claims 1-8 of the ’709 Patent,
14 which recite “a computer” and “the computer.” The full scope of the claimed invention would
15 include a “computer,” which is not confined to a particular type of “computer” but, instead, as
16 drafted would include any “computer.” For example, the specification only refers to “a personal
17 computer” or a “remote computer.” *See, e.g.*, ’709 Patent at 1:21, 1:29, 1:56, 4:32, 4:41, 4:60-61,
18 4:64, 5:1, 5:49, 6:17-22, 7:50, 8:18, 8:21, 8:32-47, 8:62-64, 9:1-9, 9:37. In addition, Plaintiff’s
19 apparent interpretation of the asserted claims is that they are broad enough to encompass an Xbox
20 game console. For the written description to be adequate then, it must describe the claimed
21 inventions as to any “computer” including but not limited to any “computer” including but not
22 limited to—in Plaintiff’s view—all gaming consoles. But the patent’s specification nowhere
23 contains that description. Thus, all asserted claims are invalid for lack of written description.

24 **C. Indefiniteness (Pre-AIA 35 U.S.C. § 112, ¶ 2)**

25 As detailed below, the Asserted Claims are indefinite under 35 U.S.C. § 112 ¶ 2 because
26 they “fail to inform, with reasonable certainty, those skilled in the art about the scope of the
invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014).

1 Additionally, “under Section 112 (f), an applicant is permitted to make use of means-plus-
2 function language, to express a claim limitation as a means or step for performing a specified
3 function without claiming the structure.” *See, e.g., Bell Northern Research, LLC v. Coolpad*
4 *Techs., Inc.*, No. 18-CV-1783-CAB, 2019 WL 3766688, at *5 (S.D. Cal. Aug. 9, 2019) (citing
5 *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1347 (Fed. Cir. 2019)). “Generic terms such as
6 ‘mechanism,’ ‘element,’ ‘device,’ and other nonce words that reflect nothing more than verbal
7 constructs may be used in a claim in a manner that is tantamount to using the word ‘means’ because
8 they ‘typically do not connote sufficiently definite structure’ and therefore may invoke § 112 ¶ 6.”
9 *Williamson*, 792 F.3d at 1350. “Such limitations are construed as the scope of the structure,
10 materials or acts described in the specification as corresponding to the claimed function or
11 equivalents thereof.” *Northern Research*, 2019 WL 3766688 at *5 (citing *Williamson*). “Structure
12 disclosed in the specification qualifies as ‘corresponding structure’ if the intrinsic evidence clearly
13 links or associates that structure to the function recited in the claim.” *Id.* (citing *Williamson*).
14 “Where there are multiple claimed functions, as we have here, the patentee must disclose adequate
15 corresponding structure to perform all of the claimed functions. If the patentee fails to disclose
16 adequate corresponding structure, the claim is indefinite.” *Williamson*, 792 F.3d at 1351-52
17 (internal citations and quotations omitted). “Even if the specification discloses corresponding
18 structure, the disclosure must be of ‘adequate’ corresponding structure to achieve the claimed
19 function. *Id.* at 1352.

20 Subject to Microsoft’s reservation of rights, and based on Microsoft’s present
21 understanding of Plaintiff’s Infringement Contentions, at least one or more of these
22 claims/terms/phrases/limitations are indefinite because they, read in light of the specifications and
23 the prosecution histories, fail to inform with reasonable certainty those skilled in the art about the
24 scope of the invention, and are therefore invalid for indefiniteness under 35 U.S.C. § 112 ¶ 2. *See*
25 *id.* At least the following claim of the patent is invalid because it includes limitations and/or claim
26 terms that fail to satisfy the definiteness requirement of 35 U.S.C. § 112 ¶ 2.

1 **1. '709 Patent**

2 The following limitation renders independent claim 1 of the '709 patent indefinite under
3 35 U.S.C. § 112 ¶ 2.

4 **“button setting adjusting unit” (claim 1)**

5 Claim 1 of the '709 Patent is indefinite based on the limitation “button setting adjusting
6 unit.” This limitation is recited in claim 1 as follows: “a button setting adjusting unit configured
7 to receive first button setting information including a mapping relationship between key inputs to
8 the application and associated virtual input messages, and to specify an arrangement and attributes
9 of virtual buttons based on the received first button setting information” and “wherein the button
10 setting adjusting unit is configured to receive second button setting information including the
11 dynamically changed virtual message associated with the given key input.”

12 The recited function in this limitation is: “configured to receive first button setting
13 information ... and to specify an arrangement and attributes of virtual buttons based on the
14 received first button setting information ... [and] configured to receive second button setting
15 information.”

16 This recitation is purely functional and includes no structure. Moreover, the term “unit” is
17 a nonce term that does not connote any structure for performing the claimed functions recited in
18 claim 1, and is exactly the type of nonce term contemplated by *Williamson* that is consistent with
19 means-plus-function limitations that do not use the word “means”. *See, e.g., Williamson*, 792 F.3d
20 at 1350; *Diebold Nixdorf, Inc. v. Int'l Trade Comm'n*, 899 F.3d 1291, 1298 (Fed. Cir. 2018)
21 (finding “cheque standby unit” a nonce term lacking sufficient structure); *WSOU Invs. LLC v.*
22 *Google LLC*, No. 2022-1066, 2023 WL 6210607, at *6-7 (Fed. Cir. Sept. 25, 2023) (“We agree
23 with Google and the district court that the term “unit,” in a vacuum, is defined only by the function
24 it performs, much like terms such as “element” or “means.”). Therefore, this limitation should be
25 construed under Section 112 (f).

26 The next step is to analyze whether there is structure in the specification corresponding to
the recited function. *See, Williamson* at 1351. The specification describes the function of the

1 “button setting adjusting unit” as “configured to receive first button setting information ... and to
2 specify an arrangement and attributes of virtual buttons based on the received first button setting
3 information ... [and] configured to receive second button setting information.” ’709 Patent at cl.
4 1; *see also id.* at 1:65-2:3; 7:11-30; Fig. 1. However, these excerpts from the specification provide
5 no corresponding structure—no algorithm or other structure is disclosed, and the specification
6 provides only functional recitations that provide no further detail than the claim limitation itself.
7 Even if one skilled in the art might be able to come up with structure for the means-plus-function
8 limitation, this is not sufficient. *Aristocrat Techs. Australia Pty Ltd. v. Int’l Game Tech.*, 521 F.3d
9 1328, 1334 (Fed. Cir. 2008) (“Aristocrat’s real point is that devising an algorithm to perform that
10 function would be within the capability of one of skill in the art, and therefore it was not necessary
11 for the patent to designate any particular algorithm to perform the claimed function. As we have
12 noted above, however, that argument is contrary to this court’s law.”); *Function Media, L.L.C. v.*
13 *Google, Inc.*, 708 F.3d 1310, 1319 (Fed. Cir. 2013) (“Having failed to provide any disclosure of
14 the structure for the “transmitting” function, FM cannot rely on the knowledge of one skilled in
15 the art to fill in the gaps.”). Thus, under 35 U.S.C. 112(f), the term “button setting adjusting unit”
16 is indefinite. *See also, e.g., ON24, Inc. v. webinar.net, Inc.*, 698 F. Supp. 3d 1154, 1166-168 (N.D.
17 Cal. 2023) (finding the term “communication manager object” indefinite for a lack of
18 corresponding structure disclosed in the patent specification); *Limestone Memory Sys. LLC v.*
19 *Micron Tech., Inc.*, No. 815CV00278DOCKESX, 2019 WL 6655273, at *18-20 (C.D. Cal. Sept.
20 11, 2019) (finding the term “an activation control circuit” indefinite for lack of corresponding
21 structure disclosed in the patent specification); *Farstone Tech., Inc. v. Apple Inc.*, No.
22 813CV1537ODWJEMX, 2015 WL 5898273, at *5 (C.D. Cal. Oct. 8, 2015), *aff’d*, 668 F. App’x
23 366 (Fed. Cir. 2016) (finding the terms “backup/recovery module” and “processing system”
indefinite for lack of corresponding structure disclosed in the patent specification).

24 **“user virtual button interface” (claims 1 and 2)**

25 Claims 1 and 2 of the ’709 Patent is indefinite based on the limitation “user virtual button
26 interface.” This limitation is recited in claim 1 as follows: “a user virtual button interface

1 configured to generate a first virtual button screen based on the first button setting information in
2 which touch regions corresponding to the virtual buttons are visually displayed, and to display the
3 first virtual button screen on a touch screen display device of the mobile terminal ... wherein, in
4 response to an occurrence of the event in the application, the user virtual button interface is
5 configured to generate and display, on the touch screen display device of the mobile terminal, a
6 second virtual button screen based on the second button information.” Additionally, this limitation
7 is recited in claim 2 as follows: “wherein: the user virtual button interface activates an acceleration
8 sensor of the mobile terminal to enable a detection of movements of the mobile terminal.”

9 The recited function in this limitation is: “configured to generate a first virtual button
10 screen based on the first button setting information ... and to display the first virtual button screen
11 on a touch screen display device of the mobile terminal ... [and] in response to an occurrence of
12 the event in the application, ... configured to generate and display, on the touch screen display
13 device of the mobile terminal, a second virtual button screen based on the second button
14 information.” Additionally, the recited function may include “activat[ing] an acceleration sensor
15 of the mobile terminal to enable a detection of movements of the mobile terminal.”

16 This recitation is purely functional and includes no structure. Moreover, the term
17 “interface” is a nonce term that does not connote any structure for performing the claimed
18 functions recited in claims 1 and 2, and is exactly the type of nonce term contemplated by
19 *Williamson* that is consistent with means-plus-function limitations that do not use the word
20 “means”. *See, e.g., Williamson*, 792 F.3d at 1350; *Diebold Nixdorf, Inc.*, 899 F.3d at 1298; *WSOU*
21 *Invs. LLC*, 2023 WL 6210607, at *6-7. Therefore, this limitation should be construed under
22 Section 112 (f).

23 The next step is to analyze whether there is structure in the specification corresponding to
24 the recited function. *See, Williamson* at 1351. The specification describes the function of the “user
25 virtual button interface” as “configured to generate a first virtual button screen based on the first
26 button setting information ... and to display the first virtual button screen on a touch screen display
device of the mobile terminal ... [and] in response to an occurrence of the event in the application,

1 ... configured to generate and display, on the touch screen display device of the mobile terminal,
2 a second virtual button screen based on the second button information” and “activat[ing] an
3 acceleration sensor of the mobile terminal to enable a detection of movements of the mobile
4 terminal.” ’709 Patent at cls. 1 & 2; *see also id.* at 2:4-8; 2:20-22; 7:31-36; Fig. 1. However, these
5 excerpts from the specification provide no corresponding structure—no algorithm or other
6 structure is disclosed, and the specification provides only functional recitations that provide no
7 further detail than the claim limitation itself. Even if one skilled in the art might be able to come
8 up with structure for the means-plus-function limitation, this is not sufficient. *Aristocrat Techs.*
9 *Australia Pty Ltd.*, 521 F.3d at 1334; *Function Media, L.L.C.*, 708 F.3d at 1319. Thus, under 35
10 U.S.C. 112(f), the term “user virtual button interface” is indefinite. *See also, e.g., ON24, Inc.*, 698
11 F. Supp. 3d at 1166-168; *Limestone Memory Sys. LLC*, 2019 WL 6655273, at *18-20; *Farstone*
12 *Tech., Inc.*, 2015 WL 5898273, at *5.

13 **“touch event filter” (claim 1)**

14 Claim 1 of the ’709 Patent is indefinite based on the limitation “touch event filter.” This
15 limitation is recited in claim 1 as follows: “a touch event filter configured to generate touch input
16 messages recognized as key input by the application, based on touch event objects that are
17 generated from touch signals, of the touch regions corresponding to the virtual buttons, among
18 touch signals input by the touch screen.”

19 The recited function in this limitation is: “configured to generate touch input messages
20 recognized as key input by the application, based on touch event objects that are generated from
21 touch signals, of the touch regions corresponding to the virtual buttons, among touch signals input
22 by the touch screen.”

23 This recitation is purely functional and includes no structure. Moreover, the term “filter”
24 is a nonce term that does not connote any structure for performing the claimed functions recited
25 in claim 1, and is exactly the type of nonce term contemplated by *Williamson* that is consistent
26 with means-plus-function limitations that do not use the word “means”. *See, e.g., Williamson*, 792
F.3d at 1350; *Diebold Nixdorf, Inc.*, 899 F.3d at 1298; *WSOU Invs. LLC*, 2023 WL 6210607, at

1 *6-7. Therefore, this limitation should be construed under Section 112 (f).

2 The next step is to analyze whether there is structure in the specification corresponding to
3 the recited function. *See, Williamson* at 1351. The specification describes the function of the
4 “touch event filter” as “configured to generate touch input messages recognized as key input by
5 the application, based on touch event objects that are generated from touch signals, of the touch
6 regions corresponding to the virtual buttons, among touch signals input by the touch screen.” ’709
7 Patent at cl. 1; *see also id.* at 2:9-14; 7:63-8:3; Fig. 1. However, these excerpts from the
8 specification provide no corresponding structure—no algorithm or other structure is disclosed, and
9 the specification provides only functional recitations that provide no further detail than the claim
10 limitation itself. Even if one skilled in the art might be able to come up with structure for the
11 means-plus-function limitation, this is not sufficient. *Aristocrat Techs. Australia Pty Ltd.*, 521
12 F.3d at 1334; *Function Media, L.L.C.*, 708 F.3d at 1319. Thus, under 35 U.S.C. 112(f), the term
13 “user virtual button interface” is indefinite. *See also, e.g., ON24, Inc.*, 698 F. Supp. 3d at 1166-
14 168; *Limestone Memory Sys. LLC*, 2019 WL 6655273, at *18-20; *Farstone Tech., Inc.*, 2015 WL
15 5898273, at *5.

16 **“client message interfacing unit” (claims 1 and 2)**

17 Claims 1 and 2 of the ’709 Patent is indefinite based on the limitation “client message
18 interfacing unit.” This limitation is recited in claim 1 as follows: “a client message interfacing unit
19 configured to convert the touch input message into a virtual input message in a form recognized
20 by the virtual controller server, and to output, to the virtual controller server, the converted touch
21 input message as the virtual input message.” Additionally, this limitation is recited in claim 2 as
22 follows: “the client message interfacing unit operable to convert the touch input message or the
23 movement input message into a virtual input message in a form recognized by the virtual controller
24 server.”

25 The recited function in this limitation is: “configured to convert the touch input message
26 into a virtual input message in a form recognized by the virtual controller server, and to output, to
the virtual controller server, the converted touch input message as the virtual input message.”

1 Additionally, the recited function may include “convert[ing] the touch input message or the
2 movement input message into a virtual input message in a form recognized by the virtual controller
3 server.”

4 This recitation is purely functional and includes no structure. Moreover, the term “unit” is
5 a nonce term that does not connote any structure for performing the claimed functions recited in
6 claims 1 and 2, and is exactly the type of nonce term contemplated by *Williamson* that is consistent
7 with means-plus-function limitations that do not use the word “means”. *See, e.g., Williamson*, 792
8 F.3d at 1350; *Diebold Nixdorf, Inc.*, 899 F.3d at 1298; *WSOU Invs. LLC*, 2023 WL 6210607, at
9 *6-7. Therefore, this limitation should be construed under Section 112 (f).

10 The next step is to analyze whether there is structure in the specification corresponding to
11 the recited function. *See, Williamson* at 1351. The specification describes the function of the
12 “client message interfacing unit” as “configured to convert the touch input message into a virtual
13 input message in a form recognized by the virtual controller server, and to output, to the virtual
14 controller server, the converted touch input message as the virtual input message” and
15 “convert[ing] the touch input message or the movement input message into a virtual input message
16 in a form recognized by the virtual controller server.” ’709 Patent at cls. 1 & 2; *see also id.* at
17 2:15-19; 2:29-33; 8:14-19; Fig. 1. However, these excerpts from the specification provide no
18 corresponding structure—no algorithm or other structure is disclosed, and the specification
19 provides only functional recitations that provide no further detail than the claim limitation itself.
20 Even if one skilled in the art might be able to come up with structure for the means-plus-function
21 limitation, this is not sufficient. *Aristocrat Techs. Australia Pty Ltd.*, 521 F.3d at 1334; *Function*
22 *Media, L.L.C.*, 708 F.3d at 1319. Thus, under 35 U.S.C. 112(f), the term “user virtual button
23 interface” is indefinite. *See also, e.g., ON24, Inc.*, 698 F. Supp. 3d at 1166-168; *Limestone Memory*
24 *Sys. LLC*, 2019 WL 6655273, at *18-20; *Farstone Tech., Inc.*, 2015 WL 5898273, at *5.

24 **“acceleration data filter” (claim 2)**

25 Claim 2 of the ’709 Patent is indefinite based on the limitation “acceleration data filter.”
26 This limitation is recited in claim 2 as follows: “an acceleration data filter configured to generate

1 a movement input message that is mapped to a key input of the application, based on acceleration
2 data that is generated based on an acceleration signal generated by the acceleration sensor.”

3 The recited function in this limitation is: “configured to generate a movement input
4 message that is mapped to a key input of the application, based on acceleration data that is
5 generated based on an acceleration signal generated by the acceleration sensor.”

6 This recitation is purely functional and includes no structure. Moreover, the term “filter”
7 is a nonce term that does not connote any structure for performing the claimed functions recited
8 in claim 2, and is the type of nonce term contemplated by *Williamson* that is consistent with means-
9 plus-function limitations that do not use the word “means”. *See, e.g., Williamson*, 792 F.3d at
10 1350; *Diebold Nixdorf, Inc.*, 899 F.3d at 1298; *WSOU Invs. LLC*, 2023 WL 6210607, at *6-7.
11 Therefore, this limitation should be construed under Section 112 (f).

12 The next step is to analyze whether there is structure in the specification corresponding to
13 the recited function. *See, Williamson* at 1351. The specification describes the function of the
14 “acceleration data filter” as “configured to generate a movement input message that is mapped to
15 a key input of the application, based on acceleration data that is generated based on an acceleration
16 signal generated by the acceleration sensor.” ’709 Patent at cl. 2; *see also id.* at 2:23-28; 8:9-12;
17 Fig. 1. However, these excerpts from the specification provide no corresponding structure—no
18 algorithm or other structure is disclosed, and the specification provides only functional recitations
19 that provide no further detail than the claim limitation itself. Even if one skilled in the art might
20 be able to come up with structure for the means-plus-function limitation, this is not sufficient.
21 *Aristocrat Techs. Australia Pty Ltd.*, 521 F.3d at 1334; *Function Media, L.L.C.*, 708 F.3d at 1319.
22 Thus, under 35 U.S.C. 112(f), the term “user virtual button interface” is indefinite. *See also, e.g.,*
23 *ON24, Inc.*, 698 F. Supp. 3d at 1166-168; *Limestone Memory Sys. LLC*, 2019 WL 6655273, at
24 *18-20; *Farstone Tech., Inc.*, 2015 WL 5898273, at *5.

24 **“button setting generating unit” (claim 4)**

25 Claim 4 of the ’709 Patent is indefinite based on the limitation “button setting generating
26 unit.” This limitation is recited in claim 4 as follows: “a button setting generating unit configured

1 to generate and transmit, to the virtual controller client, first button setting information including
2 a mapping relationship between key inputs to the application and associated virtual input
3 messages” and “wherein the button setting generating unit is further configured to, in response to
4 an occurrence of the event in the application, generate and transmit, to the virtual controller client,
5 second button setting information including the dynamically changed virtual input message
6 associated with the given key input.”

7 The recited function in this limitation is: “configured to generate and transmit, to the virtual
8 controller client, first button setting information including a mapping relationship between key
9 inputs to the application and associated virtual input messages ...[and] is further configured to, in
10 response to an occurrence of the event in the application, generate and transmit, to the virtual
11 controller client, second button setting information including the dynamically changed virtual
12 input message associated with the given key input.”

13 This recitation is purely functional and includes no structure. Moreover, the term “unit” is
14 a nonce term that does not connote any structure for performing the claimed functions recited in
15 claim 4, and is exactly the type of nonce term contemplated by *Williamson* that is consistent with
16 means-plus-function limitations that do not use the word “means”. *See, e.g., Williamson*, 792 F.3d
17 at 1350; *Diebold Nixdorf, Inc.*, 899 F.3d at 1298; *WSOU Invs. LLC*, 2023 WL 6210607, at *6-7.
18 Therefore, this limitation should be construed under Section 112 (f).

19 The next step is to analyze whether there is structure in the specification corresponding to
20 the recited function. *See, Williamson* at 1351. The specification describes the function of the
21 “button setting generating unit” as “configured to generate and transmit, to the virtual controller
22 client, first button setting information including a mapping relationship between key inputs to the
23 application and associated virtual input messages ...[and] is further configured to, in response to
24 an occurrence of the event in the application, generate and transmit, to the virtual controller client,
25 second button setting information including the dynamically changed virtual input message
26 associated with the given key input.” ’709 Patent at cl, 4; *see also id.* at 2:42-45; 6:29-35; 7:3-7;
Fig. 1. However, these excerpts from the specification provide no corresponding structure—no

1 algorithm or other structure is disclosed, and the specification provides only functional recitations
2 that provide no further detail than the claim limitation itself. Even if one skilled in the art might
3 be able to come up with structure for the means-plus-function limitation, this is not sufficient.
4 *Aristocrat Techs. Australia Pty Ltd.*, 521 F.3d at 1334; *Function Media, L.L.C.*, 708 F.3d at 1319.
5 Thus, under 35 U.S.C. 112(f), the term “user virtual button interface” is indefinite. *See also, e.g.*,
6 *ON24, Inc.*, 698 F. Supp. 3d at 1166-168; *Limestone Memory Sys. LLC*, 2019 WL 6655273, at
7 *18-20; *Farstone Tech., Inc.*, 2015 WL 5898273, at *5.

8 **“server message interfacing unit” (claim 4 and 5)**

9 Claims 4 and 5 of the '709 Patent is indefinite based on the limitation “server message
10 interfacing unit.” This limitation is recited in claim 4 as follows: “a server message interfacing
11 unit configured to transmit a setting message including the first button setting information to the
12 virtual controller client, and to receive a virtual input message from the virtual controller client,
13 the virtual input message being generated based on a touch on the touch screen display device of
14 the mobile terminal.” Additionally, this limitation is recited in claim 5 as follows: “wherein the
15 mobile terminal further comprises an acceleration sensor configured to detect movements, and
16 wherein the server message interfacing unit operable to receive a virtual input message generated
17 based on a movement of the mobile terminal.”

18 The recited function in this limitation is: “configured to transmit a setting message
19 including the first button setting information to the virtual controller client, and to receive a virtual
20 input message from the virtual controller client, the virtual input message being generated based
21 on a touch on the touch screen display device of the mobile terminal ... [and] operable to receive
22 a virtual input message generated based on a movement of the mobile terminal.”

23 This recitation is purely functional and includes no structure. Moreover, the term “unit” is
24 a nonce term that does not connote any structure for performing the claimed functions recited in
25 claims 4 and 5, and is exactly the type of nonce term contemplated by *Williamson* that is consistent
26 with means-plus-function limitations that do not use the word “means”. *See, e.g., Williamson*, 792
F.3d at 1350; *Diebold Nixdorf, Inc.*, 899 F.3d at 1298; *WSOU Invs. LLC*, 2023 WL 6210607, at

1 *6-7. Therefore, this limitation should be construed under Section 112 (f).

2 The next step is to analyze whether there is structure in the specification corresponding to
3 the recited function. *See, Williamson* at 1351. The specification describes the function of the
4 “server message interfacing unit” as “configured to transmit a setting message including the first
5 button setting information to the virtual controller client, and to receive a virtual input message
6 from the virtual controller client, the virtual input message being generated based on a touch on
7 the touch screen display device of the mobile terminal ... [and] operable to receive a virtual input
8 message generated based on a movement of the mobile terminal.” ’709 Patent at cls., 4 & 5; *see*
9 *also id.* at 2:46-50; 2:54-58; 7:3-7; 8:20-23; Fig. 1. However, these excerpts from the specification
10 provide no corresponding structure—no algorithm or other structure is disclosed, and the
11 specification provides only functional recitations that provide no further detail than the claim
12 limitation itself. Even if one skilled in the art might be able to come up with structure for the
13 means-plus-function limitation, this is not sufficient. *Aristocrat Techs. Australia Pty Ltd.*, 521
14 F.3d at 1334; *Function Media, L.L.C.*, 708 F.3d at 1319. Thus, under 35 U.S.C. 112(f), the term
15 “user virtual button interface” is indefinite. *See also, e.g., ON24, Inc.*, 698 F. Supp. 3d at 1166-
16 168; *Limestone Memory Sys. LLC*, 2019 WL 6655273, at *18-20; *Farstone Tech., Inc.*, 2015 WL
5898273, at *5.

17 **“key mapping unit” (claim 4, 6, and 7)**

18 Claims 4, 6, and 7 of the ’709 Patent is indefinite based on the limitation “key mapping
19 unit.” This limitation is recited in claim 4 as follows: “a key mapping unit configured to identify
20 a key input value mapped to the received virtual input message based on the first button setting
21 information” and “wherein the key mapping unit is further configured to identify the key input
22 value mapped to the dynamically changed virtual input message based on the second button setting
23 information.” Additionally, this limitation is recited in claim 6 as follows: “wherein the key
24 mapping unit transfers a key input value to the application via a message transfer architecture of
25 an operating system that runs the application on the computer.” Additionally, this limitation is
26 recited in claim 7 as follows: “wherein the key mapping unit transfers a key input value to the

1 application via an input and output application programming interface (API) of an operating
2 system that runs the application on the computer.”

3 The recited function in this limitation is: “configured to identify a key input value mapped
4 to the received virtual input message based on the first button setting information ... [and] further
5 configured to identify the key input value mapped to the dynamically changed virtual input
6 message based on the second button setting information.” Additionally, the recited function may
7 include “transfer[ing] a key input value to the application via a message transfer architecture of an
8 operating system that runs the application on the computer” and/or “transfer[ing] a key input value
9 to the application via an input and output application programming interface (API) of an operating
10 system that runs the application on the computer.”

11 This recitation is purely functional and includes no structure. Moreover, the term “unit” is
12 a nonce term that does not connote any structure for performing the claimed functions recited in
13 claims 4 and 5, and is exactly the type of nonce term contemplated by *Williamson* that is consistent
14 with means-plus-function limitations that do not use the word “means”. *See, e.g., Williamson*, 792
15 F.3d at 1350; *Diebold Nixdorf, Inc.*, 899 F.3d at 1298; *WSOU Invs. LLC*, 2023 WL 6210607, at
16 *6-7. Therefore, this limitation should be construed under Section 112 (f).

17 The next step is to analyze whether there is structure in the specification corresponding to
18 the recited function. *See, Williamson* at 1351. The specification describes the function of the “key
19 mapping unit” as “configured to identify a key input value mapped to the received virtual input
20 message based on the first button setting information ... [and] further configured to identify the
21 key input value mapped to the dynamically changed virtual input message based on the second
22 button setting information” and “transfer[ing] a key input value to the application via a message
23 transfer architecture of an operating system that runs the application on the computer” and/or
24 “transfer[ing] a key input value to the application via an input and output application programming
25 interface (API) of an operating system that runs the application on the computer.” ’709 Patent at
26 cls., 4, 6, & 7; *see also id.* at 2:51-53; 2:59-65; 8:20-28; Fig. 1. However, these excerpts from the
specification provide no corresponding structure—no algorithm or other structure is disclosed, and

1 the specification provides only functional recitations that provide no further detail than the claim
2 limitation itself. Even if one skilled in the art might be able to come up with structure for the
3 means-plus-function limitation, this is not sufficient. *Aristocrat Techs. Australia Pty Ltd.*, 521
4 F.3d at 1334; *Function Media, L.L.C.*, 708 F.3d at 1319. Thus, under 35 U.S.C. 112(f), the term
5 “user virtual button interface” is indefinite. *See also, e.g., ON24, Inc.*, 698 F. Supp. 3d at 1166-
6 168; *Limestone Memory Sys. LLC*, 2019 WL 6655273, at *18-20; *Farstone Tech., Inc.*, 2015 WL
7 5898273, at *5.

8 **“dynamically redefines” (claims 1 and 4)**

9 Claims 1 and 4 of the ’709 Patent recite “wherein the mapping relationship dynamically
10 redefines the virtual input message associated with a given key input of the key inputs based on an
11 event in the application.” However, at least under Plaintiff’s apparent interpretation of the claims,
12 the claims fail to inform with reasonable certainty those skilled in the art about the scope of the
13 invention, including when a “mapping relationship dynamically redefines” any such “virtual input
14 message.”

15 **“dynamically changed” (claims 1 and 4)**

16 Claims 1 and 4 of the ’709 Patent recite “wherein the button setting adjusting unit is
17 configured to receive second button setting information including the dynamically changed virtual
18 message associated with the given key input.” However, at least under Plaintiff’s apparent
19 interpretation of the claims, the claims fail to inform with reasonable certainty those skilled in the
20 art about the scope of the invention, including what constitutes “the dynamically changed virtual
21 message associated with the given key input” and when “the button setting adjusting unit” is so
22 “configured to receive second button setting information including the dynamically changed
23 virtual message associated with the given key input.”

24 The attached claim charts identify disclosures in the prior art that correspond to limitations
25 of the Asserted Claims in the ’709 patent; in some cases, Microsoft has identified prior art
26 disclosures corresponding to limitations separately identified above as indefinite. The
identification of corresponding disclosures in the prior art for such limitations should not be

1 construed as a concession that Microsoft believes those limitations fulfill the definiteness
2 requirement, or inform persons of ordinary skill in the art of the metes-and-bounds of the full scope
3 of the alleged invention with reasonable certainty. Rather, Microsoft's prior art disclosures are
4 based on potential interpretations of the claims including Plaintiff's apparent interpretation of the
5 claims based on its infringement contentions.

6 Microsoft's investigation, research, and analysis of the issues in this case are ongoing.
7 Microsoft expressly reserves the right to supplement its grounds of invalidity of the '709 patent
8 based on 35 U.S.C. § 112, ¶ 1 or 35 U.S.C. § 112, ¶ 2 pursuant to the Local Rules, or by an Order
9 from the Court.

10 2. '055 Patent

11 The following limitation renders independent claim 1 of the '055 patent indefinite under
12 35 U.S.C. § 112 ¶ 2.

13 **“wherein the coil comprises a pair of first coils positioned on the blade in a first**
14 **direction and facing each other with respect to the objective lens” (claim 1)**

15 Independent claim 1 of the '055 patent recites the limitation “wherein the coil comprises a
16 pair of first coils positioned on the blade in a first direction and facing each other with respect to
17 the objective lens.” This limitation renders independent claim 1 indefinite because the claim term
18 “*facing each other*” does not inform persons of ordinary skill in the art of the metes-and-bounds
19 of the full scope of the alleged invention with reasonable certainty. Additionally, the '055 patent
20 claim does not provide a basis to identify a clear meaning for the term “*facing each other*[.]”
21 Therefore, under 35 U.S.C. § 112 ¶ 2, independent claim 1 and all claims depending on claim 1—
i.e., claims 2-4—are indefinite.

22 The following limitations renders independent claim 40 of the '055 patent indefinite under
23 35 U.S.C. § 112 ¶ 2.

24 **“a pair of unipolar magnets positioned on the base; and a plurality of coils connected**
25 **to an electric circuit and interacting with the unipolar magnets to create an**
26 **electromagnet force to move the blade” (claim 40)**

1 Independent claim 40 of the '055 patent recites the limitations “*a pair of unipolar magnets*
2 *positioned on the base; and a plurality of coils connected to an electric circuit and interacting*
3 *with the unipolar magnets to create an electromagnet force to move the blade[.]*” This limitation
4 renders independent claim 40 indefinite because the claim term “*unipolar magnet*” is nonsensical
5 and does not inform persons of ordinary skill in the art of the metes-and-bounds of the full scope
6 of the alleged invention with reasonable certainty. Additionally, the claim term “*unipolar magnet*”
7 does not have a well-understood meaning, and none is provided in the '055 patent. Therefore,
8 under 35 U.S.C. § 112 ¶ 2, independent claim 40 and all claims depending on claim 40—i.e.,
9 claims 42-45—are indefinite.

10 The attached claim charts identify disclosures in the prior art that correspond to limitations
11 of the Asserted Claims in the '055 patent; in some cases, Microsoft has identified prior art
12 disclosures corresponding to limitations separately identified above as indefinite. The
13 identification of corresponding disclosures in the prior art for such limitations should not be
14 construed as a concession that Microsoft believes those limitations fulfill the definiteness
15 requirement, or inform persons of ordinary skill in the art of the metes-and-bounds of the full scope
16 of the alleged invention with reasonable certainty. Rather, Microsoft’s prior art disclosures are
17 based on potential interpretations of the claim scope including Plaintiffs apparent interpretation of
18 the scope of the claims in its infringement contentions.

19 Microsoft’s investigation, research, and analysis of the issues in this case are ongoing.
20 Microsoft expressly reserves the right to supplement its grounds of invalidity of the '055 patent
21 based on 35 U.S.C. § 112, ¶ 1 or 35 U.S.C. § 112, ¶ 2 pursuant to the Local Rules, or by an Order
22 from the Court.
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1 Dated: April 28, 2025

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1 **CERTIFICATE OF SERVICE**

2

3 The undersigned hereby certifies that on April 28, 2025, the undersigned caused a copy of the

4 foregoing document to be served on all counsel of record, via email, pursuant to the Federal Rules

5 of Civil Procedure.

6

7 /s/ Andrew V. Devkar

8 Andrew V. Devkar

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