IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

MULTIMEDIA TECHNOLOGIES PTE. LTD., Plaintiff, v. LG ELECTRONICS INC. and LG ELECTRONICS U.S.A., INC., Defendant.	Civil Action No. 2:22-CV-00494-JRG-RSP

DEFENDANTS' INVALIDITY CONTENTIONS

I. INTRODUCTION

Pursuant to Rule 3-3 of the Local Patent Rules ("P. R.") of the Eastern District of Texas and to Standing Order Regarding Subject-Matter Eligibility Contentions ("Standing Order"), Defendants LG Electronics Inc. and LG Electronics USA, Inc. (collectively, "LG" or "Defendants") hereby provide their Invalidity Contentions and Subject-Matter Eligibility Contentions with respect to the claims identified by Plaintiff Multimedia Technologies Pte. Ltd. ("MMT" or "Plaintiff") in its Disclosure of Asserted Claims and Infringement Contentions under Patent Rule 3-1, served on June 5, 2023 ("Infringement Contentions"), in the above captioned case. Plaintiff asserts infringement of the following claims:

U.S. Patent No.	Asserted Claims
9,055,255 ("'255 Patent")	1-4, 6-13, 15-20
9,232,168 ("'168 Patent")	1-7, 10-15
9,247,174 ("'174 Patent")	1-5, 7, 10-13
9,510,040 ("'040 Patent")	1-4, 11-15, 21
9,578,384 ("'384 Patent")	1, 3-4, 6-9
10,419,805 ("'805 Patent")	1-4, 6-18
9,426,527 ("'527 Patent")	1-11

MULTIMEDIA EXHIBIT 2006
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U.S. Patent No.	Asserted Claims
9,185,325 ("'325 Patent")	1-8
9,237,291 ("'291 Patent")	1-4, 9-12
9,055,254 ("'254 Patent")	1, 3, 6, 8, 9, 12, 13, 14-16, 19
9,829,003 ("'003 Patent")	1-5, 8-13, 16-19

Pursuant to P. R. 3-3 and 3-4, Defendants hereby provide their invalidity contentions and related documents pertaining only to the asserted claims as identified by Plaintiff in its Infringement Contentions. With respect to each asserted claim and based on its investigation to date, Defendants hereby: (a) identify each currently known item of prior art that either anticipates or renders obvious each asserted claim; (b) specify whether such prior art anticipates each asserted claim or renders it obvious; (c) submit a chart identifying where each element in each asserted claim is disclosed, described, or taught in the prior art, including for each element that is governed by pre-AIA 35 U.S.C. § 112, ¶ 6 and/or 35 U.S.C. § 112(f), the identity of the structure(s), act(s), or material(s) in each item of prior art (if any) that performs the claimed function; and (d) identify the grounds for invalidating asserted claims based on indefiniteness under pre-AIA 35 U.S.C. § 112, ¶ 2 and/or 35 U.S.C. § 112 (b), or non-enablement or lack of written description under pre-AIA 35 U.S.C. § 112, ¶ 1 and/or 35 U.S.C. § 112 (a). Defendants further rely on and incorporates all prior art references cited in and/or on the cover of the Asserted Patents and their respective prosecution histories, including, for supporting the obviousness of any asserted claim, as well as any references or documents incorporated by reference into any of the below identified references.

Also, pursuant to the Standing Order, Defendants hereby provide their Subject-Matter Eligibility Contentions and related documents pertaining only to the asserted claims as identified by Plaintiff in its Infringement Contentions. With respect to each asserted claim and based on its investigation to date, Defendants hereby provide a chart: (1) identifying each exception to

eligibility to which each asserted claim is directed and the factual and legal basis therefor; (2) identifying (A) a description of the industry, at the relevant time, in which each asserted claim is well understood, routine, and conventional, and the factual and legal basis therefor, and (B) a description of how each element of each asserted claim was well understood, routine, and conventional in the relevant industry at the relevant time, and the legal and factual basis therefor; (3) and identifying any other factual or legal basis for how each asserted claim is otherwise ineligible for patent protection.

In addition, based on its investigation to date, Defendants hereby produce, or have produced, the documents currently in their possession, custody, or control required to accompany these Invalidity and Subject-Matter Eligibility Contentions pursuant to P. R. 3-4.

II. RESERVATION OF RIGHTS

As stated above, pursuant to P. R. 3-3 and 3-4 and the Standing Order, Defendants hereby provide disclosures and related documents pertaining only to the asserted claims identified by Plaintiff in its Infringement Contentions. Defendants reserve the right to modify, amend, or supplement these Invalidity Contentions to show the invalidity and/or subject-matter ineligibility of any additional claims that the Court may allow Plaintiff to later assert. The Local Patent Rules and the Court's Docket Control Order contemplate that these Invalidity Contentions and Subject-Matter Eligibility Contentions be prepared and served in response to Plaintiff's Infringement Contentions, but Plaintiff's Infringement Contentions are insufficient in that they lack proper and complete disclosure as to how Defendants allegedly infringes each element of the asserted claims. As such, Defendants reserve the right to modify, amend, and/or supplement these Invalidity Contentions and Subject-Matter Eligibility Contentions should the Court permit Plaintiff to correct, clarify, amend, and/or supplement its Infringement Contentions.

Defendants' Invalidity Contentions and Subject-Matter Eligibility Contentions and selection of documents accompanying them are based on information currently available to Defendants and are subject to further revision. For example, Plaintiff (or its counsel) may be in possession of prior art that has not been disclosed to Defendant. As another example, because discovery has only recently begun, Defendants reserve the right to amend or supplement the information provided herein, including identifying and relying on additional references.

To the extent that these Invalidity Contentions and Subject-Matter Eligibility Contentions reflect or otherwise embody particular constructions of terms or phrases in the asserted claims, Defendants are not proposing any such constructions as proper constructions of those terms or phrases. Various positions put forth in these Invalidity Contentions and Subject-Matter Eligibility Contentions are predicated on Plaintiff's incorrect and/or overbroad interpretation of its claims in its Infringement Contentions provided to Defendants. These Invalidity Contentions and Subject-Matter Eligibility Contentions are not intended to, and do not necessarily, reflect Defendants' interpretation of the true and proper scope of the asserted claims. Defendants reserve the right to adopt claim construction positions that differ from any position in this document. Defendants also object to any attempt by Plaintiff to infer any purported claim constructions from any identification of potential prior art.

In those instances where Defendants assert that the asserted claims are invalid under 35 U.S.C. § 112 (*e.g.*, no written description, not enabled, and/or indefinite), Defendants have applied the prior art in accordance with its assumption that Plaintiff contends such asserted claims (1) are definite, (2) have written description support, and (3) are enabled, as evidenced by Plaintiff's Infringement Contentions. As such, Defendants' Invalidity Contentions do not

represent an agreement or view as to the meaning, definiteness, written description support for, or enablement of any asserted claim.

For the avoidance of doubt, these Invalidity Contentions and Subject-Matter Eligibility Contentions and accompanying documents are not intended to reflect Defendants' claim construction contentions, which will be disclosed in accordance with the Court's Docket Control Order.

Defendants' Invalidity Contentions and Subject-Matter Eligibility Contentions may change depending on the Court's construction of the asserted claims, any findings as to the priority date of the asserted claims, and/or positions that Plaintiff or its experts may take concerning claim construction, infringement, and/or invalidity issues. Prior art not included in this disclosure, whether known or unknown to Defendants, may become relevant. In particular, Defendants are currently unaware of the extent, if any, to which Plaintiff will contend that limitations of the asserted claims are not disclosed in the prior art identified by Defendants, or will contend that any of the identified references do not qualify as prior art. To the extent that such an issue arises, Defendants reserve the right to identify other references that, *inter alia*, would have made the addition of the allegedly missing limitation to the disclosed device or method obvious.

The identification of any patent or patent publication shall be deemed to include any counterpart patent or application filed, published, or issued anywhere in the world. The citation to any specifications published by standard-setting organizations shall be deemed to include any product that implements such specifications and that would qualify as prior art under 35 U.S.C. § 102, *e.g.*, under Sections 102(a), 102(b), or 102(g)(2).

Defendants' claim charts cite to particular teachings and disclosures of the prior art as applied to features of the asserted claims. Persons having ordinary skill in the art, however, may view an item of prior art in the context of other publications, literature, products, and understanding. As such, the cited portions are only exemplary, and Defendants reserve the right to rely on uncited portions of the prior art references and on other publications and expert testimony as aids in understanding and interpreting the cited portions, as providing context thereto, and as additional evidence that the prior art discloses a claim limitation. Defendants further reserve the right to rely on uncited portions of the prior art references, other publications, and testimony to establish bases for combinations of certain cited references that render the asserted claims obvious. Further, for any combination, Defendants reserve the right to rely additionally on information generally known to those skilled in the art or common sense.

The references discussed in the claim charts may disclose the elements of the asserted claims explicitly or inherently, or they may be relied upon to show the state of the art in the relevant time frame. The suggested obviousness combinations are provided in the alternative to Defendants' anticipation contentions and are not to be construed to suggest that any reference included in the combinations is not by itself anticipatory.

Defendants reserve the right to challenge patentability of the asserted claims under pre-AIA 35 U.S.C. § 102(f) and/or 35 U.S.C. § 102(b) in the event Defendants obtain evidence that the named inventor of the Asserted Patents did not invent the subject matter claimed in the Asserted Patents or is not the sole inventor of the Asserted Patents. Should Defendants obtain such evidence, it will provide the name of the person(s) from whom and the circumstances under which the invention or any part of it was derived. Defendants further reserve the right to assert that the Asserted Patents are unenforceable due to inequitable conduct.

Because discovery has just recently begun, Defendants anticipate that additional prior art and invalidity bases may be found. Defendants' investigation and analysis of the prior art is continuing, and thus Defendants reserve the right to supplement, amend, and/or revise the information provided herein as Defendants conduct further investigation and/or analysis, including identifying, charting, and relying on additional references.

Additionally, in view of likely third-party discovery that will be taken, Defendants reserve the right to present additional items of prior art under 35 U.S.C. §§ 102 (pre-AIA or post-AIA) and/or § 103 located during discovery or further investigation, and to assert contentions of invalidity under, for example, 35 U.S.C. §§ 102(c), (d), or (f). For example, Defendants may issue subpoenas to third parties believed to have knowledge, documents, and/or other evidence concerning invalidity of one or more of the Asserted Claims.

In addition to the positions and prior art identified in these Invalidity Contentions and Subject-Matter Eligibility Contentions (including the accompanying invalidity claim charts), Defendants also incorporate by reference all invalidity contentions, prior art[1], and invalidity claim charts (including, without limitation, all anticipation positions, obviousness positions (including all prior art combinations and motivations to combine), indefiniteness positions, written description positions, and nonenablement positions) concerning one or more of the Asserted Patents, as disclosed at any time. This includes without limitation disclosures in previous or related litigation, in United States Patent & Trademark Office ("USPTO") proceedings, by the Plaintiff, by any other parties accused of patent infringement by the Plaintiff,

[1] Prior art appearing in the file histories of the Asserted Patents is not required to be separately produced by Defendants under P.R. 3-4(b).

or by the named inventors or any individuals associated with the prosecution and/or post-grant review of the Asserted Patents.

III. IDENTIFICATION OF PRIOR ART PURSUANT TO P.R. 3-3(A)

Pursuant to P. R. 3-3(a), and subject to Defendants' reservation of rights, Defendants identify each item of prior art that at least evidences the obviousness of one or more of the asserted claims. In its Infringement Contentions, Plaintiff provided the following priority dates for the Asserted Patents: August 17, 2012. Without admitting the validity of this priority date, Defendants use this priority date for the purposes of these Invalidity Contentions.

In the following sections, Defendants identify each prior art patent by its number, country of origin, and date of issue, each non-patent prior art publication by, where possible, its title, date of publication, and author and/or publisher, and each prior art system currently known to Defendants by, where possible, its name and date of sale, use, or knowledge. Defendants reserve the right to identify additional non-patent and non-publication prior art systems that were sold, offered for sale, used, etc. prior to the priority date to the extent any such systems become known during discovery.

Defendants further rely on and incorporates all prior art references cited in and/or on the cover of the Asserted Patents and their respective prosecution histories, including for supporting the obviousness of any asserted claim. Defendants further rely on and incorporates by reference, as if originally set forth herein, all invalidity positions, and all associated prior art and claim charts, disclosed to Plaintiff by present or former defendants in any lawsuits or other proceedings or by potential or actual licensees to any of the asserted claims. Defendants hereby disclose and identifies as if originally set forth herein, all prior art references listed and/or asserted in the above as invalidating prior art against each of the asserted claims.

A. Identification of Prior Art to the Asserted Patents[2]

1. ’255 Patent

Prior Art Patents, Applications, and Publications

Patent/ Application/ Publication	Country of Origin	First Named Inventor	Filing Date/Priority Date	Published/Issued Date	Short Name
Korean Patent Application Publication KR2006/0078225	KR	Song et al.	12/30/2004	07/05/2006	KR2006 / 0078225
61/668054 Provisional Appl’n to US 8,918,411	US	Latif	07/05/2012	12/23/2014	Latif Provisional
8,918,411	US	Latif	08/07/2013 (filed) / claims priority to provisional application filed 07/05/2012	12/23/2014	Latif
9,239,837	US	Chardon	10/28/2011 (filed) / claims priority to provisional application filed 04/29/2011	01/19/2016	Chardon
9,319,734	US	Hong	04/05/2013	04/19/2016	Hong
2007/0028183	US	Ostojic	08/30/2005 (filed) / claims priority to provisional application filed 07/27/2005	02/01/2007	Ostojic
2008/0167127	US	Turkstra	01/05/2007	07/10/2008	Turkstra
2011/0231484	US	Burgess	03/22/2011	09/22/2011	Burgess

[2] To the extent a reference listed in Section II(A) is not referred to specifically in the charts accompanying this disclosure, such reference is included as at least being indicative of the state of the art as of the priority date of the patent for which it is listed.

Patent/ Application/ Publication	Country of Origin	First Named Inventor	Filing Date/Priority Date	Published/Issued Date	Short Name
2012/0096355	US	Vallone	12/22/2011 (filed) / claims priority to application filed 12/19/2007	04/19/2012	Vallone
2013/0135357	US	Rhee	08/03/2011 (PCT filed)	05/30/2013	Rhee
2011/0219395	US	Moshiri	05/20/2011 (filed) / claims priority to provisional application filed 08/29/2006	09/08/2011	Moshiri
WO 01/82596	PCT	Simons	04/25/2000	11/01/2001	Simons
WO 12/102568	PCT	Choi	01/27/2011 (PCT filed)	08/02/2012	Choi

Non-Patent Prior Art Publications

Author / Publisher	Reference Title	Publication Date	Short Name
aTV Flash	aTV Flash (black) 1.2 Now Available (Apple TV)	01/17/2012	aTV Flash
Healing Digital -	Healing Digital HSS852 Owner's Manual	2010	HSS852
Lee - ACM	Balancing the Power of Multimedia Information Retrieval and Usability in Designing Interactive TV	10/22/2008	Lee
Palmetto Rural Telephone Cooperative Inc. (PRTC)	The Future of Television Entertainment has Arrived – PRTC Digital TV: Your Guide to PRTC's Digital TV & Whole Home DVR Service, Powered By Microsoft Mediaroom.	02/25/2012	PRTC
Ku	SnapStream's Beyond TV 3 0 The Must-have Home Multimedia Software - The TV in Beyond TV - Live TV & Timeshifting	05/12/2004	Ku
LG	Plasma TV Service Manual, Model 50PZ550	2011	Plasma TV Service Manual, Model

Author / Publisher	Reference Title	Publication Date	Short Name
			50PZ550
LG	Owner's Manual, LED LCE TV / LCD TV Plasma TV	2010	LG's Owner's Manual
LG	LG PZ550 3D Plasma TV – Model 60PZ550 60" Class 3D 1080p Plasma TV	05/16/2011	Model 60PZ550 60" Class 3D Plasma TV
Booredatwork.com	y2mate.is - LG PZ550 3D Plasma TV W_DLNA Review_ Booredatwork-sTKzYCK3AG8-720p-1694663361 https://www.youtube.com/watch?v=sTKzYCK3AG8	05/16/2011	LG PZ550 3D Plasma TV

Prior Art Systems

System Name	Date of Offer / Use / Disclosure	Relevant Person / Entity	Short Name
LG Smart TVs including LG PZ550 3D Plasma TV	At least y December 2010	LG	LG PZ550
LG TVs, e.g., LG60LS5700, 55LW5700.AAU, LG Smart TVs	At least as early as 5/2012	LG	LG Product(s)

2. '168 Patent

Prior Art Patents, Applications, and Publications

Patent/ Application/ Publication	Country of Origin	First Named Inventor	Filing Date/Priority Date	Published/Issued Date	Short Name
7,190,478	US	Caffary, Jr.	05/29/2002 (filed) / claims priority to provisional application filed 05/25/2001	03/13/2007	Caffary, Jr.

Patent/ Application/ Publication	Country of Origin	First Named Inventor	Filing Date/Priority Date	Published/Issued Date	Short Name
7,673,240	US	Morgan	01/03/2007 (filed) / claims priority to provisional application filed 12/30/2005	03/02/2010	Morgan
8,243,017	US	Brodersen	10/12/2006	08/14/2012	Brodersen
9,158,440	US	Lider	08/01/2012	10/13/2015	Lider
9,456,130	US	Kim	01/04/2013	09/27/2016	Kim
61/583609 Provisional App'n to US9,456,130	US	Kim	01/06/2012	09/27/2016	Kim
2007/0028183	US	Ostojic	08/30/2005	02/01/2007	Ostojic
2008/0301734	US	Goldeen	05/28/2007	12/04/2008	Goldeen
2009/0064020	US	Morris	08/30/2007	03/05/2009	Morris
2009/0222771	US	Eibl	03/03/2009	09/03/2009	Eibl
2010/0162319	US	Pipenbrink	12/23/2008	06/24/2010	Pipenbrink
2010/0262995	US	Woods	09/30/2009 (filed) / claims priority to provisional application filed 04/10/2009	10/14/2010	Woods
2011/0035707	US	Kitayama	08/05/2010	02/10/2011	Kitayama
2012/0117601	US	Yeh	09/13/2011	05/10/2012	Yeh
2012/0229374	US	Kobayashi	03/09/2012	09/13/2012	Kobayashi
2012/0304066	US	Brodersen	08/08/2012 (filed) / claims priority to provisional application filed 09/11/2006	11/29/2012	Brodersen
2012/0311504	US	Van Os	02/16/2012	12/06/2012	Van Os
2013/0019263	US	Ferren	06/29/2012	01/17/2013	Ferren
2013/0174035	US	Grab	12/30/2011	07/04/2013	Grab
2013/0347033	US	Grab	06/22/2012	12/26/2013	Grab
2014/0137157	US	Alba	10/01/2013 (filed) / claims priority to	03/15/2014	Alba

Patent/ Application/ Publication	Country of Origin	First Named Inventor	Filing Date/Priority Date	Published/Issued Date	Short Name
			provisional application filed 02/28/1997		
WO 2007/128394	PCT	Goebel	04/20/2007 (PCT filed)	11/15/2007	Goebel

Non-Patent Prior Art Publications

Author / Publisher	Reference Title	Publication Date	Short Name
Apple TV	Video apple-tv-3rd-generation-1080p-unboxing-demo https://www.youtube.com/watch?v=i_GUuJyyyRQ	03/15/2012	Apple TV
Samsung Smart TV	Samsung SMART TV Review https://www.youtube.com/watch?v=DUq8Bhs3ByA	04/26/2011	Samsung Smart TV
SHARP AQUOS QUATTRON TV	y2mate.is - HOW TO SETUP SHARP AQUOS QUATTRON TV REVIEW PT4-2YmcQz83xQg-720p-1694662365 https://www.youtube.com/watch?v=2YmcQz83xQg	06/01/2012	SHARP AQUOS QUATTRON TV
Samsung 55" UE55D7000 3D LED TV	y2mate.is - Unboxing Samsung 55 UE55D7000 3D LED TV 2011 D7000 D8000 Part 2-zokiDtmClF8-480pp-1694662006 https://www.youtube.com/watch?v=zokiDtmClF8	08/06/2011	Samsung 55" UE55D7000 3D LED TV

Prior Art Systems

System Name	Date of Offer / Use / Disclosure	Relevant Person / Entity	Short Name
Samsung Smart TVs including Samsung D8000 Smart TV	at least by January 2011	Samsung	Samsung D8000
Microsoft Office 2007	at least as early as January 30, 2007	Microsoft	Office 2007
LG TVs, e.g., LG60LS5700, 55LW5700.AAU, LG Smart TVs, PZ550 3D Plasma TV	At least as early as 5/2012	LG	LG Product(s)

3. ’174 Patent

Prior Art Patents, Applications, and Publications

Patent/ Application/ Publication	Country of Origin	First Named Inventor	Filing Date/Priority Date	Published/Issued Date	Short Name
2003/0162493	US	Kim	01/09/2003	08/28/2003	Kim
2009/0089835	US	Watanabe	05/01/2008	04/02/2009	Watanabe
2009/0094643	US	Pickelsimer	05/23/2008	04/09/2009	Pickelsimer
2010/0281500	US	Uemichi	05/28/2008	11/04/2010	Uemichi
2010/0319028	US	Park	05/12/2010	12/16/2010	Park
2011/0004904	US	Green	09/15/2010	01/06/2011	Green
2011/0055871	US	Bi	08/28/2009	03/03/2011	Bi
2011/0219395	US	Moshiri	05/20/2011	09/08/2011	Moshiri
2013/0290848	US	Billings	08/16/2012	10/31/2013	Billings
WO 98/37695	PCT	Defreese	02/19/1997	08/27/1998	Defreese

Non-Patent Prior Art Publications

Author / Publisher	Reference Title	Publication Date	Short Name
VIZIO Inc.	VIZIO Models E3D320VX, E3D420VX, E3D470VX User Guide	2012	VIZIO E3D420VX
VIZIO Inc.	[YT2mp3.info] - 3183. VIZIO E3D320VX 32-Inch Class Theater 3D LCD HDTV Review _ VIZIO E3D320VX 32-Inch Class... https://www.youtube.com/watch?v=CTE1gdYBoT0	05/05/2010	VIZIO E3D320VX
Lee/ACM	Balancing the Power of Multimedia Information Retrieval and Usability in Designing Interactive TV	10/22/2008	Lee
Magic TV / Pixel Magic Systems, Ltd.	Magic TV Owner’s Guide	2009	Magic TV
Redondo-Garcia / Int’l J of Semantic Computing	ONTOTV: An Ontology-Based System for the Management of Information About Television Contents	2012	ONTOTV
Sumiyoshi / IEEE	CurioView: TV Recommendations Related to Content Being Viewed	2010	CurioView
Panasonic	Owner’s Manual for TC-L37E5X, TC-L42E5X, and TC-L47E5X	2012	Panasonic

Author / Publisher	Reference Title	Publication Date	Short Name
VIZIO	VIZIO M420NV User Manual	02/23/2010	VIZIO M420NV
Western Digital	WD TV Live; WD TV Live Plus HD Media Players, User Manual	2010	WD TV Live

Prior Art Systems

System Name	Date of Offer / Use / Disclosure	Relevant Person / Entity	Short Name
VIZIO Smart TVs including VIZIO E3D320VX/ E3D420VX/ D470VXTV	At least as early as March 2011	VIZIO	VIZIO E3D320VX/ E3D420VX/E3D470VX TV
VIZIO Smart TVs including M420NV TV	At least as early as 02/23/2010	VIZIO	VIZIO M420NV TV
Panasonic TC-L37E5X. TC-L42E5X. TC-L47E5X TV	At least as early as 2011	Panasonic	Panasonic TV
WD TV Live/Live Plus HD Media Players	At least as early as 2012	Western Digital	WD TV
Magic TV	At least as early as 2009	Magic TV	Magic TV
LG TVs, e.g., LG60LS5700, 55LW5700.AAU, LG Smart TVs, PZ550 3D Plasma TV	At least as early as 5/2012	LG	LG Product(s)

4. ’040 Patent

Prior Art Patents, Applications, and Publications

Patent/ Application/ Publication	Country of Origin	First Named Inventor	Filing Date/Priority Date	Published/Issued Date	Short Name
61/583,609	US	Kim	01/06/2012	01/06/2012	Kim
10-2011-0113883	KR	Hyeon	10/04/2010	10/04/2010	Hyeon
8,307,302	US	Takaki	05/14/2009	11/06/2012	Takaki
8.365.230	US	Chane I	09/19/2002	01/29/2013	Chane I
9,270,963	US	Schmidt	04/30/2009	02/23/2016	Schmidt
9,779,097	US	Arriola	04/09/2012	10/03/2017	Arriola
2002/0059610	US	Ellis	05/23/2001	05/16/2002	Ellis

Patent/ Application/ Publication	Country of Origin	First Named Inventor	Filing Date/Priority Date	Published/Issued Date	Short Name
2008/0167127	US	Turkstra	01/05/2007	07/10/2008	Turkstra
2009/0094197	US	Fein	10/04/2007	04/09/2009	Fein
2009/0204929	US	Baurmann	02/07/2008	08/13/2009	Baurmann
2010/0064318	US	Tsou	03/17/2009	03/11/2010	Tsou
2011/0179139	US	Starkenburg	03/31/2011	07/21/2011	Starkenburg
2011/0219395	US	Moshiri	05/20/2011	09/08/2011	Mochiri
2012/0054794	US	Kim	03/09/2011	03/01/2012	Kim
2012/0204201	US	Cassidy	07/11/2011	08/09/2012	Cassidy
2013/0057764	US	Choi	06/28/2012	03/07/2013	Choi
2013/0176415	US	Kim	01/04/2013	07/11/2013	Kim

Non-Patent Prior Art Publications

Author / Publisher	Reference Title	Publicatio n Date	Short Name
Palmetto Rural Telephone Cooperativ e (PRTC)	The Future of Television Entertainment has Arrived-PRTC Digital TV – Your Guide to PRTC's Digital TC & Whole Home DVR Service	05/2012	PRTC
Western Digital	WD TV Live Hub Media Center – User Manual	05/2012	WD TV
LG Smart TV	y2mate.is - LG Smart TV explained at CES 2011-IKjsVWwWhMU-720p-1694664111 https://www.youtube.com/watch?v=IKjsVWwWhMU	01/07/2011	LG Smart TV
LG Smart TV internet connected TV	y2mate.is - LG Smart TV internet connected TVs at CES 2011 Which first look review-hKlqJm6nj_8-1080pp-1694664327 https://www.youtube.com/watch?v=hKlqJm6nj_8	01/06/2011	LG Smart TV internet connecte d TV

Prior Art Systems

System Name	Date of Offer / Use / Disclosure	Relevant Person / Entity	Short Name
LG Smart TVs	at least as early as January 2011	LG	LG Smart TV and/or LG Consumer Product Show
WD TV Live/Live Plus HD Media Players	At least as early as May 2012	Western Digital	WD TV

System Name	Date of Offer / Use / Disclosure	Relevant Person / Entity	Short Name
PRTC Digital TV	At least as early as February 25, 2012	Palmetto Rural Telephone Cooperative	PRTC Digital TV
LG TVs, e.g., LG60LS5700, 55LW5700.AAU, LG Smart TVs, PZ550 3D Plasma TV	At least as early as 5/2012	LG	LG Product(s)

5. '384 Patent

Prior Art Patents, Applications, and Publications

Patent/ Application/ Publication	Country of Origin	Inventor	Filing Date/Priority Date	Published/Issued Date	Short Name
8,365,235	US	Hunt et al.	September 5, 2008 (filed) claiming priority to Provisional application filed December 18, 2007	June 18, 2009 (published) / January 29, 2013 (issued)	Hunt
2012/0233640	US	Odryna et al.	March 8, 2012 (filed) / claims priority to provisional application filed November 15, 2011	September 13, 2012	Odryna
2013/0285937	US	Billings et al.	April 17, 2012 (filed); claims priority to provisional application filed April 27, 2012	October 13, 2013	Billings
2013/0014159	US	Wiser et al.	April 17, 2012 (filed);	January 10, 2013	Wiser

Patent/ Application/ Publication	Country of Origin	Inventor	Filing Date/Priority Date	Published/Issued Date	Short Name
			claims priority to provisional application filed April 14, 2008		
2012/0054679	US	Ma et al.	May 16, 2011 (filed); claims priority to provisional application filed August 31, 2010	March 1, 2012	Ma
2012/0266069	US	Moshiri et al.	December 28, 2010 (PCT filed)	October 18, 2012	Moshiri
2008/0155613	US	Benya et al.	December 22, 2006	June 26, 2008	Benya
2013/0332838	US	Naggar et al.	June 11, 2012	December 12, 2013	Naggar
2011/0289067	US	Jordan et al.	September 3, 2010; claims priority to provisional applications filed May 18, 2010	November 24, 2011	Jordan
7,631,323	US	Green et al.	December 7, 2005	December 8, 2009	Green
2010/0199219	US	Robert	2009-12-30	2010-08-05	Robert
2009/0177989	US	Jeffrey	2008-01-14	2009-07-09	Jeffrey

Non-Patent Prior Art Publications

Author / Publisher	Reference Title	Publication Date	Short Name
Boxee Box	The Boxee Box By D-link	2010	Boxee Box
Metuki, et al.	Infinite Content Within Reach_Using 3D Body-Based Interaction to Enhance Content Discovery	05/05/2012	Metuki, et al.
Mitchell	LG 55LW9800 Nano Full LED THX 3D LCD HDTV - ecoustics.com	09/12/2011	Mitchell
Netgear	NeoTV PRO ™ Streaming Player	04/20/2012	Netgear

Author / Publisher	Reference Title	Publication Date	Short Name
Netgear II	Netgear NeoTV Streaming Player NTV200 User Manual	02/2012	Netgear II
Cattaneo - NoTube	D6.4 NoTube Integrated System 3rd Prototype	10/26/2011	Cattaneo - NoTube
Netgear III	NTV200S_DS_20Apr12	04/20/2012	Netgear III
Panasonic	Panasonic TH-L32C30K; TH-L32C30M; TH-L32C30T; TH-L32C30X; – Operating Instructions LCD TV	06/16/2011	Panasonic
Rettinger - Samsung	Samsung D8000 Smart TV SmartHub Demo - YouTube	05/24/2011	Rettinger - Samsung
TiVo	TiVo_Brochure_Generic_75HD	03/12/2011	TiVo
Netflix	UnoTelly_Guide: How to use Netflix outside the US	07/06/2011	Netflix
Western Digital	WD_TV_Hub - User Manual	2012	Western Digital
Netgear NeoTV NTV200	Video netgear-neotv-ntv200-streaming-player-first-time-power-up-setup-overview https://www.youtube.com/watch?v=mY43B1Vhv1w	12/30/2011	Netgear NeoTV NTV200
Netgear NeoTV	Video netgear-neotv-pro-streaming-player-ntv200s-walkthrough-first-time-power-up https://www.youtube.com/watch?v=DXyN1rzft1A	07/14/2012	Netgear NeoTV
Netgear NTV200 NeoTV	Video netgear-ntv200-neotv-streaming-player https://www.youtube.com/watch?v=cauleDEkkaY	10/06/2011	Netgear NTV200 NeoTV
Apple TV	y2mate.is - Apple TV Netflix-a-5QP69VQQ8-720p-1694736656 https://www.youtube.com/watch?v=a-5QP69VQQ8	09/30/2010	Apple TV

Prior Art Systems

System Name	Date of Offer / Use / Disclosure	Relevant Person / Entity	Short Name
VIZIO TVs having applications such as Netflix and Vudu including VIZIO TVs identified in https://hdguru.com/vizios-2011-hdtv-line/ including VIZIO Internet Apps and https://www.zdnet.com/article/vizio-introduces-new-line-of-led-backlit-lcd-hdtvs-sizes-range-from-16-to-72/ including VIZIO Internet Apps.	at least as early as January 20, 2011	VIZIO	VIZIO HDTVs
Samsung TVs having applications such as Netflix and Vufu including	At least as early as April 18, 2011	Samsung	Samsung TVs

System Name	Date of Offer / Use / Disclosure	Relevant Person / Entity	Short Name
Samsung UN55D8000 LED LCD HDTV and other TVs in UNC8000 series.			
NeoTV Pro Streaming Player including NeoTV NTV200	at least as early as December 30, 2011	Netgear	NeoTV
LG TVs, e.g., LG60LS5700, 55LW5700.AAU, LG Smart TVs, PZ550 3D Plasma TV	At least as early as 5/2012	LG	LG Product(s)

6. '805 Patent

Prior Art Patents, Applications, and Publications

Patent/ Application/ Publication	Country of Origin	First Named Inventor	Filing Date/Priority Date	Published/Issued Date	Short Name
10-0947887	KR	Park	06/30/2008	03/07/2010	Park
10-2009-0036386	KR	Son	10/09/2007	04/14/2009	Son
20100065850	KR	Lee	2008-12-09	2010-06-17	Lee II
20110022377	KR	Lee	2009-08-27	2011-03-07	Lee III
20120084457	KR	Jung	2011-01-20	2012-07-30	Jung
20120057028	KR	Park	2010-11-26	2012-06-05	Park II
2011/0282949	US	Leon	2011-05-05	2011-11-17	Leon
2005/0228806	US	Seth	2005-03-15	2005-10-13	Seth
WO12/091322	PCT	Kim	2011-12-13	2012-07-05	Kim
61/736692 Provisional Application	US	Visosky	12/13/2012	12/13/2012	Visosky
5,253,275	US	Yurt	04/02/1992	10/12/1993	Yurt
5,666,645	US	Thomas	04/26/1995	09/09/1997	Thomas
6,305,018	US	Usui	10/28/1999	10/16/2001	Usui
10,048,745	US	Wu	09/30/2010	08/14/2018	Wu
2002/0133822	US	Yang	03/13/2001	09/19/2002	Yang
2007/0136445	US	Sweatt	09/08/2006	06/14/2007	Sweatt
2011/0078735	US	Gorsuch	09/30/2009	03/31/2011	Gorsuch
2011/0209170	US	Schein	05/04/2011	08/25/2011	Schein
2012/0005605	US	White	09/16/2011	01/05/2012	White
2012/0136902	US	Oyarzabal	11/30/2010	05/31/2012	Oyarzabal
2013/0263184	US	Melnychenko	03/28/2012	10/03/2013	Melnychenko
WO02/039742	PCT	Myers	11/08/2000	05/16/2002	Myers
WO03/084218	PCT	Allen	03/29/2002	10/09/2003	Allen
WO11/043534	PCT	Lee	09/29/2009	04/14/2011	Lee

Non-Patent Prior Art Publications

Author / Publisher	Reference Title	Publication Date	Short Name
O'Sullivan, et al.	Improving the Quality of the Personalized Electronic Program Guide	2004	O'Sullivan
Kerne	Meta-Metadata: A Metadata Semantics Language for Collection Representation Applications	10/26/2010	Kerne

Prior Art Systems

System Name	Date of Offer / Use / Disclosure	Relevant Person / Entity	Short Name
VIZIO TVs	at least as early as 2011	VIZIO	VIZIO HDTVs
LG TVs, including LG60LS5700, 55LW5700.AAU, LG Smart TVs, PZ550 3D Plasma TV	At least as early as 2011	LG	LG Product(s)
Samsung Smart TVs	At least as early as 2011	Samsung	Samsung Smart TV

7. '527 Patent

Prior Art Patents, Applications, and Publications

Patent/ Application/ Publication	Country of Origin	First Named Inventor	Filing Date/Priority Date	Published/Issued Date	Short Name
8,027,999	US	Coffman	02/25/2008	09/27/2011	Coffman
8,209,729	US	Phillips	04/20/2006	06/26/2012	Phillips
8,464,293	US	Carr	12/31/2008	06/11/2013	Carr
9,973,817	US	Ellis	06/30/2010	05/15/2018	Ellis
2005/0228806	US	Haberman	03/15/2005	10/13/2005	Haberman
2008/0092168	US	Logan	08/20/2007	04/17/2008	Logan
2008/0163328	US	Philbin	12/29/2006	07/03/2008	Philbin
2008/0320515	US	Sloo	06/24/2007	12/25/2008	Sloo
2009/0144768	US	Nagaraja	12/04/2007	06/04/2009	Nagaraja
2010/0257561	US	Maissel	06/03/2008	10/07/2010	Maissel
2011/0145856	US	Agarwal	12/14/2009	06/16/2022	Agarwal
2011/0161242	US	Chung	12/28/2009	06/30/2011	Chung
2011/0167084	US	Bovenschulte	03/18/2011	07/07/2011	Bovenschulte
2013/0018878	US	Sansom	09/03/2010	01/17/2013	Sansom

Prior Art Systems

System Name	Date of Offer / Use / Disclosure	Relevant Person / Entity	Short Name
VIZIO TVs	at least as early as 2011	VIZIO	VIZIO HDTVs
LG TVs, including LG60LS5700, 55LW5700.AAU, LG Smart TVs, PZ550 3D Plasma TV	At least as early as 5/2012	LG	LG Product(s)
Samsung Smart TVs	At least as early as 2011	Samsung	Samsung Smart TV

8. ’325 Patent

Prior Art Patents, Applications, and Publications

Patent/ Application/ Publication	Country of Origin	First Named Inventor	Filing Date/Priority Date	Published/Issued Date	Short Name
8,395,235	US	Hunt	09/05/2008 (filed); claims priority to Provisional application filed 12/18/2007	06/18/2009 (published) / 01/29/2013 (issued)	Hunt
9,973,817	US	Ellis	06/30/2010	05/15/2018	Ellis
2004/0128691	US	Egawa	09/10/2003	07/01/2004	Egawa
2005/0283803	US	Kimura	06/11/2005	12/22/2005	Kimura
2007/0150828	US	Tsukada	12/26/2006	06/28/2007	Tsukada
2007/0157249	US	Cordray	12/29/2005	07/05/2007	Cordray
2008/0172615	US	Igelman	06/06/2007	07/17/2008	Igelman
2010/0017713	US	Igarashi	02/24/2009	01/21/2010	Igarashi
2010/0031193	US	Stark	04/27/2009	02/04/2010	Stark
2010/0257561	US	Maissel	06/03/2008	10/07/2010	Maissel
2011/0002593	US	Takao	08/27/2010 (PCT filed)	01/06/2011	Takao
2011/0058788	US	Asao	11/05/2010	03/10/2011	Asao
2011/0162009	US	Adimatyam	12/28/2009	06/30/2011	Adimatyam
2011/0312375	US	Kim	11/03/2010	12/22/2011	Kim
2012/0054679	US	Ma	05/16/2011 (filed); claims priority to provisional	03/01/2012	Ma

Patent/ Application/ Publication	Country of Origin	First Named Inventor	Filing Date/Priority Date	Published/Issued Date	Short Name
			application filed 08/31/2010		
2014/0157149	US	Nishizawa	02/24/2014	06/05/2014	Nishizawa
2014/0201632	US	Kunigita	04/10/2012	06/17/2014	Kunigita
2014/0223480	US	Berry	02/02/2013	08/07/2014	Berry
61/593995 Provisional Appl of US 2014/0223480	US	Bickell	02/02/2012	08/07/2014	Bickell

Non-Patent Prior Art Publications

Author / Publisher	Reference Title	Publication Date	Short Name
Mede8er MED500X2	Play Folder; Play Video from Cover Art; Watched Indicator; Mede8er MED500X2 User Manual	11/21/2011	Mede8er MED500X2
aTV Flash	aTV Flash (black) 1.2 Now Available (Apple TV)	01/17/2012	aTV Flash

Prior Art Systems

System Name	Date of Offer / Use / Disclosure	Relevant Person / Entity	Short Name
VIZIO TVs having applications such as Netflix and Vudu including VIZIO TVs identified in https://hdguru.com/vizios-2011-hdtv-line/ including VIZIO Internet Apps and https://www.zdnet.com/article/vizio-introduces-new-line-of-led-backlit-lcd-hdtvs-sizes-range-from-16-to-72/ including VIZIO Internet Apps.	at least as early as January 20, 2011	VIZIO	VIZIO HDTVs
LG TVs, including LG60LS5700, 55LW5700.AAU, LG Smart TVs, PZ550 3D Plasma TV	At least as early as 5/2012	LG	LG Product(s)

9. ’291 Patent

Prior Art Patents, Applications, and Publications

Patent/ Application/ Publication	Country of Origin	First Named Inventor	Filing Date/Priority Date	Published/Issued Date	Short Name
101521745	CN	Wang	04/14/2009	04/13/2011	Wang
102523531	CN	Hua	12/08/2011	06/27/2012	Hua
6,006,631	US	Anderson	11/26/1997	12/21/1999	Anderson
8,522,281	US	Sahami	04/30/2007	08/27/2013	Sahami
8,621,521	US	McCoskey	07/09/2012	12/31/2013	McCoskey
8,635,169	US	Avedissian	04/19/2012	01/21/2014	Avedissian
8,973,037	US	Asam	03/15/2013	03/03/2015	Asam
61/671890 Provisional Appln to US 8,973,037	US	Asam	07/16/2012	03/03/2015	Asam
9,031,848	US	Cheong	08/16/2012	05/12/2015	Cheong
10,171,881	US	Sansom	09/03/2012	01/01/2019	Sansom
2005/0071323	US	Gabriel	09/29/2003	03/31/2005	Gabriel
2008/0288460	US	Poniatowsky	05/15/2008	11/20/2008	Poniatowsky
2010/0063878	US	Bachet	04/29/2008	03/11/2010	Bachet
2010/0146077	US	Davies	06/22/2008	06/10/2010	Davies
2010/0153885	US	Yates	11/12/2009	06/17/2010	Yates
2011/0289530	US	Dureau	05/10/2011	11/24/2011	Dureau
2012/0143902	US	Son	06/27/2011	06/07/2012	Son

Non-Patent Prior Art Publications

Author / Publisher	Reference Title	Publication Date	Short Name
Lugmayr	Digital Interactive TV and Metadata – Future Broadcast Multimedia	2004	Lugmayr
Barragáns-Martínez / Information Sciences	A hybrid content-based and item-based collaborative filtering approach to recommend TV programs enhanced with singular value decomposition	2010	Barragáns-Martínez
Cisco	Cisco Videoscape Media Suite – Data Sheet	2012	Cisco
Google	Eight Reasons To Get a Google TV and Four Reasons Not To	11/03/2010	Google
Google TV - CNET	Google TV: What You Need to Know (FAQ)	10/14/2010	Google TV
Audioholics	Samsung Smart TV Video Review https://www.youtube.com/watch?v=DXC5E1mPECQ	04/20/2011	Audioholics

Author / Publisher	Reference Title	Publication Date	Short Name
			Samsung Smart TV
Which? / https://www.which.co.uk/	Samsung Smart TV at CES 2011 - Which? first look review https://www.youtube.com/watch?v=oNx2iFA-3yU	1/9/2011	Which? 2011 Samsung CES
Basic / VIPromCom-2002	USER'S REQUIREMENTS FOR Electronic Program Guide (EPG) IN INTERACTIVE TELEVISION (iTV)	06/16/2002	Basic
BWOne.com	Google TV Final Review - BWOne.com https://www.youtube.com/watch?v=68dQMPZQVYw	11/23/2010	BWOne.com
gtvapps	Video netflix-google-tv-app-review https://www.youtube.com/watch?v=-RfDRLMiOmU	11/06/2010	gtvapps
Sony Australia	Video sony-internet-player-with-google-tv-tv-meets-the-web https://www.youtube.com/watch?v=hURGFAy3g9I	06/24/201	Sony Australia
Moskovciak, Matthew / cnet.com	Google TV: What you need to know (FAQ), https://www.cnet.com/culture/google-tv-what-you-need-to-know-faq/	10/14/2010	cnet Google TV
InformIT	Basic Network Programming in J2ME MIDP, https://www.informit.com/articles/article.aspx?p=131116&seqNum=5	08/27/2001	InformIT

Prior Art Systems

System Name	Date of Offer / Use / Disclosure	Relevant Person / Entity	Short Name
VIZIO TVs	at least as early as 2011	Vizio	VIZIO HDTVs
Sharp TVs, e.g., LC-70LE743E and LC-60LE743E	At least as early as 2010	Sharp	Sharp
Sony TVs, e.g., KDL-46V4000, KDL-40V4000, KDL-32V4000 – Bravia	At least as early as 2008	Sony	Sony
LG TVs, e.g., LG60LS5700, 55LW5700.AAU, LG	At least as early as 5/2012	LG	LG Product(s)

System Name	Date of Offer / Use / Disclosure	Relevant Person / Entity	Short Name
Smart TVs, PZ550 3D Plasma TV			
Google TV	At least as early as 2010	Google	Google TV Product(s)
Samsung Smart TVs	At least as early as 2011	Samsung	Samsung Smart TV

10. ’254 Patent

Prior Art Patents, Applications, and Publications

Patent/ Application/ Publication	Country of Origin	First Named Inventor	Filing Date/Priority Date	Published/Issued Date	Short Name
8,089,455	US	Weider	11/28/2006	01/03/2012	Wieder
8,572,653	US	Kim	03/09/2011	10/29/2013	Kim
8,898,715	US	Sansom	09/03/2010	11/25/2014	Sansom
20090074639	KR	Park	01/02/2008	07/07/2009	Park
20100134423	KR	Bae	06/15/2009	12/23/2010	Bae
20120074452	KR	Kang	12/28/2010	07/06/2012	Kang
2004/0078816	US	Johnson	02/28/2002	04/22/2004	Johnson
2005/0204389	US	Proehl	05/03/2005	09/15/2005	Proehl
2007/0061724	US	Slothouber	09/15/2006	03/15/2007	Slothouber
2012/0119995	US	Hunleth	04/04/2011	05/17/2012	Hunleth
2012/0124615	US	Lee	03/09/2011	05/17/2012	Lee
2013/0239149	US	Kim	09/27/2011	09/12/2013	Kim
WO2000/05889	PCT	Ellis	07/23/1998	02/03/2000	Ellis

Non-Patent Prior Art Publications

Author / Publisher	Reference Title	Publicatio n Date	Short Name
Vega-Oliveros / ACM	An Approach Based on Multiple Text Input Modes for Interactive Digital TV Applications	09/27/2010	Vega-Oliveros
Sharp	Model LC-70LE743E and LC-60LE743E, Operation Manual for LCD Colour Television	2011	Sharp
Sharp	LC-70LE743E, LC-60LE743E, Operation Manual, GB	June 2011	Sharp
LG	LG 42LV3730.AAU	10/13/2011	LG 42LV3730
LG	LG 55LW5700.AAU Manual, User Guides & Documents	01/09/2012	LG 55LW5700

Author / Publisher	Reference Title	Publication Date	Short Name
LG	LG60LS5700 User Guide	05/03/2012	LG 60LS5700 User Guide
LG	LG60LS5700 Specification Sheet	2012	LG60LS5700 Specification Sheet
Sansui	STB-HD01 High Definition Digital Receiver – Instruction Manual	1997	Sansui
Sony	Operating Instructions for Sony KDL-46V4000, KDL-40V4000, KDL-32V4000 – Bravia – LCD Digital Colour TV	2008	Sony
De Baerdemaeker, Jorn / Vrije Universiteit Brussel	SpeeG: A Speech-and-Gesture-based Text Input Device	2011	De Baerdemaeker, Jorn / Vrije Universiteit Brussel
Sumiyoshi / IEEE	CurioView: TV Recommendations Related to Content Being Viewed	2010	Sumiyoshi
LG TV Remote Controls	y2mate.is - How To Use The Coloured Special Function Buttons On LG TV Remote Controls Red Green Yellow Blue-iZwNxAtMvUE-1080pp-1694740121 https://www.youtube.com/watch?v=iZwNxAtMvUE	04/04/2022	LG TV Remote Controls
Which? – LG Smart TV	y2mate.is - LG Smart TV internet connected TVs at CES 2011 Which first look review-hKlqJm6nj_8-1080pp-1694738823	01/06/2011	Which? – LG Smart TV

Prior Art Systems

System Name	Date of Offer / Use / Disclosure	Relevant Person / Entity	Short Name
VIZIO TVs	at least as early as 2011	Vizio	VIZIO HDTVs
Sharp TVs, e.g., LC-70LE743E and LC-60LE743E	At least as early as 2010	Sharp	Sharp
Sony TVs, e.g., KDL-46V4000, KDL-40V4000, KDL-32V4000 – Bravia	At least as early as 2008	Sony	Sony

System Name	Date of Offer / Use / Disclosure	Relevant Person / Entity	Short Name
LG TVs, e.g., LG60LS5700, 55LW5700.AAU, LG Smart TVs, PZ550 3D Plasma TV	At least as early as 5/2012	LG	LG Product(s)
SpeeG	At least as early as 2011	De Baerdemaeker, Jorn / Vrije Universiteit Brussel	SpeeG
CurioView	At least as early as 2010	Sumiyoshi / IEEE	CurioView
Samsung Smart TVs	At least as early as 2011	Samsung	Samsung Smart TV

11. '003 Patent

Prior Art Patents, Applications, and Publications

Patent/ Application/ Publication	Country of Origin	First Named Inventor	Filing Date/Priority Date	Published/Issued Date	Short Name
101707693	CN	Thomas	10/09/2001	04/26/2017	Thomas
8,352,983	US	Chane I	07/11/2003	01/08/2013	Chane I
2003/0084449	US	Chane II	09/19/2002	05/01/2003	Chane II
2006/0107289	US	DeYonker	07/28/2004	05/18/2006	DeYonker
2007/0199022	US	Moshiri	12/04/2006	08/23/2007	Moshiri
2009/0249394	US	Schwesinger	03/28/2008	10/01/2009	Schwesinger
2010/0180300	US	Carpenter	12/08/2009	07/15/2010	Carpenter
2010/0235740	US	Friedlander	03/11/2009	09/16/2010	Friedlander
2010/0333133	US	Krakirian	01/30/2009	12/30/2010	Krakirian
2011/0069178	US	Harris	09/23/2009	03/24/2011	Harris
2011/0150432	US	Paul	12/23/2009	06/23/2011	Paul
2011/0283232	US	Jordan	03/16/2011	11/17/2011	Jordan
2013/0014159	US	Wiser	04/17/2012	01/10/2013	Wiser
2013/0031584	US	Chane III	07/11/2002	01/31/2013	Chane III
2013/0174035	US	Grab	12/30/2011	07/04/2013	Grab

Non-Patent Prior Art Publications

Author / Publisher	Reference Title	Publication Date	Short Name
Ariva	Ariva 4K User Manual - Ferguson	09/08/2010	Ariva
Geekyranjit	Boxee Box internet media player Review - YouTube	12/23/2011	Boxee Box

Author / Publisher	Reference Title	Publication Date	Short Name
D-Link Boxee Box	D-Link Boxee Box DSM-380	01/2011	D-Link Boxee Box I
D-Link	D-Link Boxee Box manual	2011	D-Link Boxee Box II
Linksys - Cisco	Linksys – User Guide for Media Center Extender – Models DMA2100, DMA2200	2010	Linksys - Cisco
Ferguson Ariva 4K	Ferguson Ariva 4K – Satellite TC	09/08/2010	Ferguson Ariva 4K
LG 47G2	LG 47G2 Google TV Review - YouTube	06/17/2012	LG 47G2
LG 47G2 II	LG 47G2 Manual	04/20/2012	LG 47G2 II
Live TV	Live TV in Windows Media Center in Windows 7 Beta 1 (Build 7000) (HD) - YouTube	01/10/2009	Live TV
My Movies	My Movies Windows Media Center Plug-in Demo - YouTube	12/02/2009	My Movies
Panasonic Smart	Panasonic Smart VIERA TX ST30B Interface Review_Viera Cast - YouTube	02/13/2012	Panasonic Smart
Samsung 46	Review of Samsung 46_ LED 2D Smart TV UE46D5520 - YouTube	08/18/2011	Samsung 46
Samsung Smart TV I	Samsung Smart TV hands-on - YouTube	01/13/2011	Samsung Smart TV I
Samsung Smart TV II	Samsung Smart TV Review UE40D5520 LED HDTV - YouTube	01/24/2012	Samsung Smart TV II
Samsung Smart TV III	Samsung Smart TV Review UE40D5520 LED HDTV	01/24/2012	Samsung Smart TV III
Sony Smart TV	Sony 2012 Smart TV Walkthrough - YouTube	06/21/2012	Sony Smart TV
Sony Bravia	Sony Bravia KDL-40EX640 LED LCD HDTV Review	06/21/2012	Sony Bravia
TCL	TCL LE24FHDD20 Features, Screen Test, and Review - YouTube	07/13/2012	TCL
Windows Media Center	THE Ultimate Media Center Part 1 - YouTube	01/13/2010	Windows Media Center
VidaBox – Windows Media Center	VidaBox - Media Center Overview - YouTube	12/29/2009	VidaBox
Boxee Box	Video boxee-box-internet-media-player-review https://www.youtube.com/watch?v=tWxmv6FU-uk	12/23/2011	Boxee Box
LG 47G2 Google TV	Video LG 47G2 Google TV Review https://www.youtube.com/watch?v=93TBoNFaBhk	06/17/2012	LG 47G2 Google TV

Author / Publisher	Reference Title	Publication Date	Short Name
Live TV	Video Live TV in Windows Media Center in Windows 7 Beta 1 (Build 7000) (HD) https://www.youtube.com/watch?v=azO1tO919I8	01/10/2009	Live TV
My Movies	Video My Movies Windows Media Center Plug-in Demo https://www.youtube.com/watch?v=koZ6W7OuVlU	12/01/2009	My Movies
Panasonic Smart VIERA TX ST30B	Video Panasonic Smart VIERA TX ST30B Interface ReviewViera Cast https://www.youtube.com/watch?v=j-A5YFb6Hn4	02/13/2012	Panasonic Smart
Samsung 46" LED 2D Smart TV	Video Review of Samsung 46 LED 2D Smart TV UE46D5520 https://www.youtube.com/watch?v=39wDSVzyfGo	08/18/2011	Samsung Smart TV
Samsung Smart TV	Video Samsung Smart TV hands-on https://www.youtube.com/watch?v=h7DiJQettVY	01/13/2011	Samsung Smart TV I
Samsung Smart TV	Video Samsung Smart TV Review UE40D5520 LED HDTV https://www.youtube.com/watch?v=AD5PS4dlyr4	01/23/2012	Samsung Smart TV II
Sony 2012 Smart TV	Video Sony 2012 Smart TV Walkthrough https://www.youtube.com/watch?v=KUCRUQk9Kmo	06/21/2012	Sony 2012 Smart TV
TCL LE24FHDD20	Video TCL LE24FHDD20 Features, Screen Test, and Review https://www.youtube.com/watch?v=y3cAa7P5q-U	07/12/2012	TCL LE24FHDD20
THE Ultimate Media Center	Video THE Ultimate Media Center Part 1 https://www.youtube.com/watch?v=yF8_wCJ9BN8	01/12/2010	THE Ultimate Media Center
VidaBox	Video VidaBox - Media Center Overview https://www.youtube.com/watch?v=JswjoaC7pG8	12/29/2009	VidaBox
Western Digital	WD_TV_Hub - User Manual	2012	Western Digital

Prior Art Systems

System Name	Date of Offer / Use / Disclosure	Relevant Person / Entity	Short Name
Boxee DSM 380	at least as early as 01/2011	Boxee DSM 380	Boxee DSM 380
VidaBox – Media Centers	at least as early as 12/29/2009	VidaBox	VidaBox
Ultimate Media Center Part 1	at least as early as 01/12/2010	Ultimate Media Center	Ultimate Media Center
My Movies Windows Media Center Plug-in Demo	at least as early as 12/01/2009	my Movies	My Movies
LG TVs, e.g., LG60LS5700, 55LW5700.AAU, LG Smart TVs, PZ550 3D Plasma TV	At least as early as 5/2012	LG	LG Product(s)

IV. INVALIDITY DUE TO ANTICIPATION AND/OR OBVIOUSNESS PURSUANT TO P.R. 3-3(B) AND (C)

A. Identification of Prior Art Anticipating and/or Rendering Obvious the Asserted Claims

In accordance with P. R. 3-3(b) and (c), prior art references anticipating or rendering obvious some or all of the asserted claims are listed in the tables below.

A full citation to each reference is in the Tables above, along with the "Short Name" used to identify each reference throughout this disclosure. The following tables list (i) each anticipating prior art reference, (ii) the asserted claims anticipated by each anticipating reference, (iii) for each anticipating reference, the chart identifying where specifically in that reference each element of each asserted claim is found.

The art cited in the claim charts is illustrative and not exhaustive. Further, these claim charts provide illustrative citations to where each element may be found in the prior art references. The cited references may contain other disclosures of each claim element as well, and Defendants reserve the right to argue any claim elements of the asserted claims are disclosed in

non-cited portions of these references. Similarly, where Defendants cite to a patent figure in the charts, it incorporates the accompanying specification text describing that figure and vice-a versa.

1. Prior Art Anticipating and/or Rendering Obvious the Asserted Claims of the ’255 Patent

Exhibit	Prior Art Reference
INV-255-A1	LG PZ550
INV-255-A2	KR2006/0078225
INV-255-A3	PRCT
INV-255-A4	Turkstra
INV-255-B	Lee
INV-255-B	Vallone
INV-255-B	HSS852
INV-255-B	Latif
INV-255-B	Ku
INV-255-B	Ostojic
INV-255-B	Chardon
INV-255-B	Rhee
INV-255-B	Moshiri
INV-255-B	Simons
INV-255-B	Choi

2. Prior Art Anticipating and/or Rendering Obvious the Asserted Claims of the ’168 Patent

Exhibit	Prior Art Reference
INV-168-A1	Lider
INV-168-A2	Samsung D8000
INV-168-A3	Ferren
INV-168-A4	Alba
INV-168-B	Morgan
INV-168-B	Broderson
INV-168-B	Caffary, Jr.
INV-168-B	EIBL
INV-168-B	Woods
INV-168-B	Goebel
INV-168-B	Office 2007

3. Prior Art Anticipating and/or Rendering Obvious the Asserted Claims of the ’174 Patent

Exhibit	Prior Art Reference
INV-174-A1	Sumiyoshi
INV-174-A2	Green
INV-174-A3	Billings
INV-174-A4	Pickelsimer
INV-174-A5	Uemichi
INV-174-A6	MagicTV
INV-174-A7	Moshiri
INV-174-B	Park
INV-174-B	Lee
INV-174-B	VIZIO
INV-174-B	Kim
INV-174-B	Redondo-Garcia
INV-174-B	Bi
INV-174-B	WD
INV-174-B	Defreese
INV-174-B	Panasonic
INV-174-B	Watanabe
INV-174-B	VIZIO II

4. Prior Art Anticipating and/or Rendering Obvious the Asserted Claims of the ’040 Patent

Exhibit	Prior Art Reference
INV-040-A1	Ellis
INV-040-A2	WD TV
INV-040-A3	Starkenburg
INV-040-A4	Hyeon
INV-040-A5	Moshiri
INV-040-A6	PRTC Digital TV
INV-040-A7	Choi
INV-040-A8	Kim
INV-040-A9	Baurmann
INV-040-A10	LG Consumer Product Show
INV-040-B	Arriola
INV-040-B	Fein
INV-040-B	Tsou
INV-040-B	Kim
INV-040-B	Chane I
INV-040-B	Turkstra
INV-040-B	Schmidt
INV-040-B	Takaki
INV-040-B	Cassidy

5. Prior Art Anticipating and/or Rendering Obvious the Asserted Claims of the ’384 Patent

Exhibit	Prior Art Reference
INV-384-A1	VIZIO HDTVs
INV-384-A2	Samsung TVs
INV-384-A3	Hunt
INV-384-A4	Odryna
INV-384-A5	NeoTV
INV-384-B	Billings
INV-384-B	Wiser
INV-384-B	Ma
INV-384-B	Moshiri
INV-384-B	Benya
INV-384-B	Naggar
INV-384-B	Jordan
INV-384-B	Green

6. Prior Art Anticipating and/or Rendering Obvious the Asserted Claims of the ’805 Patent

Exhibit	Prior Art Reference
INV-805-A1	Allen
INV-805-A2	Melnychenko
INV-805-A3	Schein
INV-805-A4	Lee
INV-805-A5	O’Sullivan
INV-805-B	Gorsuch
INV-805-B	Kerne
INV-805-B	Myers
INV-805-B	Oyarzabal
INV-805-B	Sweatt
INV-805-B	Thomas
INV-805-B	Usui
INV-805-B	White
INV-805-B	Wu
INV-805-B	Yang
INV-805-B	Yurt

7. Prior Art Anticipating and/or Rendering Obvious the Asserted Claims of the ’527 Patent

Exhibit	Prior Art Reference
INV-527-A1	Chung
INV-527-A2	Haberman

Exhibit	Prior Art Reference
INV-527-A3	Sansom
INV-527-A4	Carr
INV-527-B	Coffman
INV-527-B	Logan
INV-527-B	Sloo
INV-527-B	Nagaraja
INV-527-B	Philbin
INV-527-B	Agarwal
INV-527-B	Bonvenschulte
INV-527-B	Maissel
INV-527-B	Phillips

8. Prior Art Anticipating and/or Rendering Obvious the Asserted Claims of the '325 Patent

Exhibit	Prior Art Reference
INV-325-A1	VIZIO HDTVs
INV-325-A2	Ellis
INV-325-A3	Adimatyam
INV-325-A4	Tsukada
INV-325-B	Takao
INV-325-B	Igelman
INV-325-B	Kimura
INV-325-B	Ma
INV-325-B	Cordray
INV-325-B	Hunt
INV-325-B	Egawa
INV-325-B	Kim
INV-325-B	Kunigita

9. Prior Art Anticipating and/or Rendering Obvious the Asserted Claims of the '291 Patent

Exhibit	Prior Art Reference
INV-291-A1	Dureau
INV-291-A2	Son
INV-291-A3	Samsung
INV-291-A4	McCoskey
INV-291-B	Sansom
INV-291-B	Sahami
INV-291-B	Yates
INV-291-B	Gabriel
INV-291-B	Davies
INV-291-B	Bachet

Exhibit	Prior Art Reference
INV-291-B	Hua
INV-291-B	Wang
INV-291-B	InformIT
INV-291-B	cnet Google TV

10. Prior Art Anticipating and/or Rendering Obvious the Asserted Claims of the ’254 Patent

Exhibit	Prior Art Reference
INV-254-A1	BAE and/or Kim
INV-254-A2	LG60LS5700
INV-254-A3	Sharp
INV-254-A4	Johnson and/or Ellis
INV-254-A5	Slothouber
INV-254-B	Proehl
INV-254-B	Wieder
INV-254-B	Sansom
INV-254-B	Hunleth
INV-254-B	Park
INV-254-B	Kang
INV-254-B	De Baerdemaeker
INV-254-B	Oliveros

11. Prior Art Anticipating and/or Rendering Obvious the Asserted Claims of the ’003 Patent

Exhibit	Prior Art Reference
INV-003-A1	Chane I
INV-003-A2	Chane II
INV-003-A3	Boxee DSM-380
INV-003-A4	WD TV
INV-003-A5	Live TV
INV-003-A6	LG 47G2
INV-003-A7	Friedlander
INV-003-A8	Schwesinger
INV-003-B	Jordan
INV-003-B	Moshiri
INV-003-B	DeYonker
INV-003-B	Harris
INV-003-B	Grab
INV-003-B	Carpenter
INV-003-B	Wiser
INV-003-B	VidaBox
INV-003-B	Ultimate Media Center

Exhibit	Prior Art Reference
INV-003-B	My Movies
INV-003-B	Paul
INV-003-B	Krakirian
INV-003-B	TV Guide
INV-003-B	Sumiyoshi

To the extent that prior art identified by Defendants as anticipating is found not to anticipate, the prior art establishes that the claimed subject matter was obvious to a person of ordinary skill in the art at the time of the alleged invention. To the extent not anticipated, no asserted claim goes beyond combining known elements to achieve predictable results or does more than choose between clear alternatives known to those of ordinary skill in the art.

Even if a particular claim element is not expressly found in one of the charted references above, those charted references render the relevant asserted claims obvious without the need to combine with any other references, having in mind the information generally known to those skilled in the art, common sense, and/or routine innovation. Accordingly, Defendants disclose each of the references cited above in Section IV as rendering obvious the asserted claims as shown in the charts referenced above.

In addition, the charted references in combination with one or more of the other charted references (as identified above and in the accompanying claim charts) render obvious the asserted claims. As explained in the accompanying charts, it would have been obvious to a person of ordinary skill in the art at the time of the alleged invention of the asserted claims to combine the various references cited herein so as to practice the asserted claims. In addition to the specific combinations of prior art and the specific combinations of groups of prior art disclosed, Defendants reserve the right to rely on any other combination of any prior art references disclosed herein. Defendants further reserve the right to rely upon combinations disclosed within the prosecution history of the references cited herein. These obviousness

combinations reflect Defendants' present understanding of the potential scope of the claims that Plaintiff appears to be advocating and should not be construed as Defendants' acquiescence to Plaintiff's interpretation of the patent claims.

One or more combinations of the prior art references identified above pursuant to P. R. 3-3(a) would have been obvious because these references would have been combined using: known methods to yield predictable results; known techniques in the same way; a simple substitution of one known, equivalent element for another to obtain predictable results; and/or a teaching, suggestion, or motivation in the prior art generally. In addition, it would have been obvious to try combining the prior art references identified above pursuant to P. R. 3-3(a) because there were only a finite number of predictable solutions and/or because known work in one field of endeavor prompted variations based on predictable design incentives and/or market forces either in the same field or a different one. In addition, the combination of the prior art references identified above pursuant to P. R. 3-3(a) would have been obvious because the combination represents the known potential options with a reasonable expectation of success.

Additional evidence that there would have been a motivation to combine the prior art references identified above pursuant to P. R. 3-3(a) includes the interrelated teachings of multiple prior art references; the effects of demands known to the design community or present in the marketplace; the existence of a known problem for which there was an obvious solution encompassed by the asserted claims; the existence of a known need or problem in the field of the endeavor at the time of the invention(s); and the background knowledge that would have been possessed by a person having ordinary skill in the art.

Thus, the motivation to combine the teachings of the prior art references disclosed herein is found in the references themselves and: (1) the nature of the problem being solved, (2) the

express, implied, and inherent teachings of the prior art, (3) the knowledge of persons of ordinary skill in the art, (4) the fact that the prior art is generally directed towards associating images with their content, and (5) the predictable results obtained in combining the different elements of the prior art. Additionally, one of ordinary skill in the art would have been motivated to address at least the alleged problems or achieve the purported objectives identified in the descriptions of the Asserted Patents.

Any reference or combination of references that anticipates or makes obvious an asserted independent claim also makes obvious any asserted claim dependent on that independent claim because every element of each dependent claim was known by a person of ordinary skill at the time of the alleged invention, and it would have been obvious to combine those known elements with the independent claims at least as a matter of common sense and routine innovation Defendants contend that each asserted claim would have been obvious not only. Accordingly, by the combinations explicitly defined in these contentions, but also by any combination of references that renders obvious an asserted claim.

Numerous prior art references, including those identified above pursuant to P. R. 3-3(a) and in the claim charts reflect common knowledge and the state of the prior art prior to the priority dates of the Asserted Patents. As it would be unduly burdensome to create detailed claim charts for the thousands of invalidating combinations, Defendants have provided illustrative examples of such invalidating combinations below and in the charts attached hereto. For at least the reasons described above and below in the examples provided as well as in the attached claim charts, it would have been obvious to one of ordinary skill in the art to combine any of a number of prior art references, including any combination of those identified in the attached claim charts, to meet the limitations of the asserted claims. As such, Defendants' inclusion of exemplary

combinations does not preclude Defendants from identifying other invalidating combinations as appropriate.

B. Identification of Combinations of Prior Art Rendering the Asserted Claims Obvious

The asserted claims are rendered obvious by single references when combined with the knowledge of a person of ordinary skill in the art, combinations of references, and combinations of references when combined with the knowledge of a person of ordinary skill in the art as explained herein and in the exhibits attached hereto.

For each charted reference, the invalidity charts identify specific additional charts/references that it may be combined with under 35 U.S.C. § 103.

C. Motivation to Combine

In *KSR*, the Supreme Court emphasized that an idea that is the result of ordinary innovation, ordinary skill, or common sense should not be patentable. *See KSR Int'l Co. v. Teleflex Inc*., 550 U.S. 398 (2007). The Supreme Court held that a person of ordinary skill in the art is "a person of ordinary creativity, not an automaton" and "in many cases a person of ordinary skill in the art will be able to fit the teachings of multiple patents together like pieces of a puzzle." *Id.* at 420-21. Although a patent challenger is not required to show that one of ordinary skill in the art would have had a specific motivation to combine prior art references, such a showing may be helpful to the obviousness analysis. *Id.* at 418; *see also id.* at 402.

One of skill in the art would have been motivated to combine the references identified herein because, for example, the identified combinations fall into one or more of the following categories:

- A combination of elements known in the prior art according to known methods to yield a predictable result;

- A combination that is a simple substitution of one or more known elements for another to obtain a predictable result;
- A combination that involves using a known technique to improve a similar device or method in the same way;
- A combination that involves applying a known technique to a known device or method ready for improvement to yield a predictable result;
- A combination that results from a finite number of identified, predictable solutions with a reasonable expectation of success, such that the solution was one which was "obvious to try";
- A combination that results from known work in one field of endeavor prompting variations of it for use either in the same field or a different field based on design incentives or other market forces in which the variations were predictable to one of ordinary skill in the art; and
- A teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill in the art to modify the prior art reference or to combine the teachings of various prior art references to arrive at the claimed invention.

Further, the Federal Circuit has held that a motivation to combine references may be implicit for patents claiming an "improvement":

> [A]n implicit motivation to combine exists not only when a suggestion may be gleaned from the prior art as a whole, but when the "improvement" is technology-independent and the combination of references results in a product or process that is more desirable, for example because it is stronger, cheaper, cleaner, faster, lighter, smaller, more durable, or more efficient. Because the desire to enhance commercial opportunities by improving a product or process is universal—and even commonsensical—we have held that there exists in these situations a motivation references themselves. In such situations, the proper question is whether the ordinary artisan possesses knowledge and skills rendering him capable of combining the prior art references.

DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co., 464 F.3d 1356, 1368 (Fed. Cir. 2006). The prior art references identified herein explicitly or implicitly refer to other prior art references, share common authors or inventors, were published in the same journals, presented at the same conferences, were presented as proposals to standards working groups, and/or were developed at common companies, schools, or organizations, all of which would motivate one of skill in the art to combine them. As such, detailed motivations to combine can be

found in each exhibit of the charted references. These references are also within the fields of the Asserted Patents and are directed to similar subject matter within those fields. Additionally, any products, devices, or processes described in the references existed and/or were invented before or during the period in which the claimed inventions were developed, providing further motivation to combine them.

To the extent Plaintiff challenges a combination of prior art with respect to a particular element, Defendants reserve all rights to supplement these contentions to further specify the motivation to combine the prior art. Defendants may rely on cited or uncited portions of the prior art, other documents, and/or expert testimony to establish that a person of ordinary skill in the art would have been motivated to modify or combine the prior art so as to render the claims invalid as obvious.

D. There Is No Evidence of Any Indicia of Nonobviousness

There is 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; no industry praise; no unexpected results; no industry skepticism and no licensing. Each is addressed in turn below:

No long felt but unsolved need. There was no long-felt but unsolved need that the Asserted Claims solve. The concepts described in the Asserted Patents were all well known before the alleged invention dates of the Asserted Patents as evidenced by the patents themselves, their file histories and references cited therein, and the prior art identified herein, including those identified in the above-referenced Exhibits. In addition, there was no long felt but unsolved need because there is nothing particularly compelling about the claimed methods, systems, and apparatus.

No copying. Plaintiff has provided no credible evidence that the alleged inventions of the Asserted Patents were copied or that any functionality that practices the Asserted Patents was copied. Copying "requires evidence of efforts to replicate a specific product." *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1246 (Fed. Cir. 2010). Here, Plaintiff has not, and cannot, show that Defendants copied any product that embodies the Asserted Patents. Further, evidence of copying is "not sufficient to demonstrate nonobviousness of the claimed invention" where, as here, there is a "substantial question of validity raised by the prior art references" cited by Defendant. *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1366 (Fed. Cir. 2001). As explained in detail in these contentions, the Asserted Patents are rendered obvious by the prior art. Thus, Plaintiff cannot show any nexus between any alleged copying and the merits of the claimed inventions of the Asserted Patents.

No failure of others. Although "[n]onobviousness is suggested by the failure of others to find a solution to the problem which the patents in question purport to solve," *Symbol Techs., Inc. v. Opticon, Inc.*, 935 F.2d 1569, 1578 (Fed. Cir. 1991), this is not such a case. As explained in detail in these contentions, the alleged inventions or the Asserted Patents were well known in the art, the claimed technology straightforward and predictable.

No commercial success. Plaintiff has not provided any evidence that any alleged success of its products or any other products is due to the alleged inventions claimed in the Asserted Patents. A patentee bears the burden of demonstrating that the relevant commercial success is attributable to the claimed invention "as opposed to other economic and commercial factors unrelated to the technical quality of the patented subject matter." *Cable Elec. Prods, Inc. v. Genmark, Inc.*, 770 F. 2d 1015, 1027 (Fed. Cir. 1985). Here, Plaintiff has not shown and cannot show that Defendants' success is due to the alleged invention of the Asserted Patents. The

commercial success of the accused product is unrelated to the purported inventions of the Asserted Patents. Furthermore, if any commercial success is due to any of the concepts disclosed in the Asserted Patents, those concepts are also present in the prior art and thus are irrelevant to the question of obviousness. *See Tokai Corp. v. Easton Enterprises, Inc.*, 632 F.3d 1358, 1369-70 (Fed. Cir. 2011) ("If commercial success is due to an element in the prior art, no nexus exists."); *In re Huai-Hung Kao*, 639 F.3d 1057, 1068 (Fed. Cir. 2011) ("Where the offered secondary consideration actually results from something other than what is both claimed and novel in the claim, there is no nexus to the merits of the claimed invention."); *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1312 (Fed. Cir. 2006) ("[I]f the feature that creates the commercial success was known in the prior art, the success is not pertinent.").

No industry praise. Plaintiff has presented no evidence of industry praise for the alleged inventions of the Asserted Patents or any functionality that allegedly practices the Asserted Patents. To the extent any praise is related to any functionality that allegedly practices the Asserted Patents, that praise is not due to the allegedly novel features of the Asserted Patents, but instead only to features present in the prior art, which is not a sufficient nexus to be relevant to the question of industry praise for purposes of obviousness. *See Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1328 (Fed. Cir. 2008).

No unexpected results. There is no evidence of any unexpected results when the elements of the Asserted Claims were combined. Instead, as discussed above, the concepts claimed in the Asserted Patents were already combined or would have been obvious to combine in the same manner as the Asserted Claims. These prior art systems and products, as described in in these contentions, disclosed the same combinations of elements, and the same results of such combinations, that are recited in the Asserted Claims of the Asserted Patents. Thus, there were no

unexpected results that arose from combining the well-known elements in the Asserted Claims of the Asserted Patents.

No industry skepticism. Plaintiff has presented no evidence that others were skeptical before the alleged invention date of the Asserted Patents, nor can it. In fact, there was no industry skepticism concerning the claimed concepts that predates the Asserted Patents. Instead, many companies and individuals were already using the concepts claimed in the Asserted Patents. Thus, there was no industry skepticism that using or combining these well-known prior art concepts would be viable; others in the field were already combining them in the same manner as arranged in the Asserted Claims.

Simultaneous Invention. Individuals working independently of the Asserted Patents' named inventor(s) simultaneously or near-simultaneously invented the alleged invention of the Asserted Claims of the Asserted Patents. Such evidence supports a finding that the Asserted Claims would have been obvious to a person of ordinary skill in the art at the time of the invention. *See Geo. M. Martin Co. v. Alliance Mach. Sys.*, 618 F.3d 1294, 1305 (Fed. Cir. 2010) ("Independently made, simultaneous invention, made within a comparatively short space of time, are persuasive evidence that the claimed apparatus was the product only of ordinary mechanical or engineering skill.") (citing *Concrete Appliances Co. v. Gomery*, 269 U.S. 177, 184 (1925)) (internal quotations omitted); *see also Ecolochem, Inc. v. So. Cal. Edison Co.*, 227 F.3d 1361, 1379 (Fed. Cir. 2000).

V. <u>INVALIDITY UNDER 35 U.S.C. § 112 PURSUANT TO P.R. 3-3(D)</u>

The following Invalidity Contentions set forth below, pursuant to P. R. 3-3(d), are subject to revision and amendment pursuant to Federal Rule of Civil Procedure 26(e) and the Orders of record in this matter to the extent appropriate in light of further investigation and discovery

regarding the defenses below, the Court's construction of the claims at issue, and/or the review and analysis of expert witnesses.

A. Indefiniteness under 35 U.S.C. § 112(b) or pre-AIA 35 U.S.C. § 112, ¶2

Claims are indefinite under 35 U.S.C. § 112, ¶ 2 when 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). To the extent an asserted apparatus claim includes both apparatus and method limitations, that claim is invalid for indefiniteness under § 112, ¶ 2 because it fails to identify or notify the public of what constitutes direct infringement. *See IPXL Holdings, L.L.C. v. Amazon.com, Inc.*, 430 F.3d 1377 (Fed. Cir. 2005).

Paragraph 2 of 35 U.S.C. § 112 also requires that the claimed subject matter be what "the inventor or a joint inventor regards as the invention." "Where it would be apparent to one of skill in the art, based on the specification, that the invention set forth in a claim is not what the patentee regarded as his invention, we must hold that claim invalid under § 112, paragraph 2." *Allen Eng'g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1349 (Fed. Cir. 2002).

In addition to Defendants' reservation of rights stated above, Defendants notes that the Court's Docket Control Order contemplates that all indefiniteness issues be brought to the Court's attention through the *Markman* briefing process, Defendants' detailed arguments as to indefiniteness will be presented at that time, through the *Markman* meet and confer and briefing processes. Moreover, Defendants' contentions are based on the manner in which Plaintiff is alleging infringement, to the extent such allegations are apparent from Plaintiff's infringement contentions, which are deficient in a number of respects:

B. Lack of Enablement/Written Description Under 35 U.S.C. § 112(a) or pre-AIA 35 U.S.C. § 112, ¶1

35 U.S.C. § 112, ¶ 1 requires that the specification contain a written description of the invention. To satisfy the written description requirement, the specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention at the time of filing the patent application. *See generally Ariad Pharm., Inc. v. Eli Lilly and Co.*, 598 F.3d 1336 (Fed. Cir. 2010) (en banc). "[T]he hallmark of written description is disclosure." *Boston Scientific Corp. v. Johnson & Johnson*, 647 F.3d 1353, 1361-62 (Fed. Cir. 2011) (citation omitted). The test for whether a specification adequately describes an invention is "whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date. . . . [T]he test requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art. . . . [It] is a question of fact." *Ariad Pharms., Inc.*, 598 F.3d at 1351; *Boston Scientific*, 647 F.3d at 1362. Moreover, "it is the specification itself that must demonstrate possession." *Ariad Pharms., Inc.*, 598 F.3d at 1352.

The enablement requirement of § 112 demands that the patent specification enable "those skilled in the art to make and use the full scope of the claimed invention without 'undue experimentation.'" *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1365 (Fed. Cir. 1997) (quoting *In re Wright*, 999 F.2d 1557, 1561 (Fed. Cir. 1993)). "To be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without undue experimentation." *MagSil Corp. v. Hitachi Global Storage Techs.*, 687 F.3d 1377, 1380-81 (Fed. Cir. 2012) (citation omitted). "[T]he scope of the claims must be less

than or equal to the scope of the enablement." *Nat'l Recovery Tech., Inc. v. Magnetic Separation Sys., Inc.*, 166 F.3d 1190, 1196 (Fed. Cir. 1999).

Certain claims of the patents-in-suit are not supported by the written description and are not enabled.

C. The Following Claims and Limitations are Invalid Under 35 U.S.C. § 112

1. The '254 Patent

Asserted Claim(s)	Claim Term(s)	Invalidity Under 35 U.S.C. § 112
Claims 1, 8, 14	"microprocessor executable application framework," "wherein the downloaded software applications comprise one or more of a web browser, settings control, and content search algorithms," "via one or more panels or windows displayed by the television screen"	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.
Claim 3, 9, 16	"wherein the information panel comprises one or more of identify the selected application, provide a description of the functionality of the selected application, user ratings and/or degree of other user downloading of the selected application, an option to launch, remove, update, and add to favorites the selected application, and provide a listing of selectable links of other (not yet downloaded) recommended applications that provide similar functionality to the selected application"	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.
Claims 6, 12, 19	"to include only those programs and/or channels selectable from the selected digits"	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.

Asserted Claim(s)	Claim Term(s)	Invalidity Under 35 U.S.C. § 112
Claim 9	"selected is associated with a pre-installed or previously downloaded application icon"	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.

2. The ’291 Patent

Asserted Claim(s)	Claim Term(s)	Invalidity Under 35 U.S.C. § 112
Claims 1, 9	“microprocessor executable application framework,” “microprocessor executable data service of the television,” “a selected previous set of search terms,” “a microprocessor executable content presentation service opening a socket and sending the second selected set of search terms to a microprocessor executable content aggregation service,” “wherein the plural external content sources comprise a Web site other than the EPG content source,” “the plural external content sources comprising an Internet site and one or both of cable and satellite content sources other than the Internet site; the non-local search results comprising EPG information corresponding to multiple channels and/or programs,” “over the previously opened socket to one or more users, the providing comprising displaying, by the application framework,” “the microprocessor executable content presentation service disconnects the socket”	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.
Claim 2	“provide programming formation comprising, for each program, airtime,	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2

Asserted Claim(s)	Claim Term(s)	Invalidity Under 35 U.S.C. § 112
	program name, program channel, and program description"	because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.
Claims 4, 12	"wherein one of the multiple programs is in focus" and "wherein a thumbnail preview is displayed on a screen of the television with the displayed set of search results, wherein the thumbnail preview corresponds to the in focus program, wherein the thumbnail preview comprises a graphical image and at least one of a program name, series name, episode number, episode name, and sport event name and a plurality of a program description, a program type, a program category, a start-to-finish time, current runtime, and a remaining runtime, and wherein the graphical image is one of a captured frame of the in focus program, a picture associated with the in focus program, and a photograph associated with the in focus program"	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.

3. The '168 Patent

Asserted Claim(s)	Claim Term(s)	Invalidity Under 35 U.S.C. § 112
Claims 1, 4, 11, 13	"associated with," "receiving, by a processor of the intelligent television, a selection associated with a first navigation bar in the user interface of the intelligent television," "can contain," "cannot contain," "determining if a second user interface, associated with the selection, can contain a second navigation bar," "if a second user interface, associated with the selection, can contain a second navigation bar, rendering a horizontal	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.

Asserted Claim(s)	Claim Term(s)	Invalidity Under 35 U.S.C. § 112
	navigation bar as the second navigation bar in the second user interface," "user interface device," and "if a second user interface, associated with the selection, cannot contain a second navigation bar, rendering a different user interface device for the second navigation bar in the second user interface"	
Claims 1, 4, 11, 13	"user interface device"	The term requires construction as a means-plus-function limitation under 35 U.S.C. § 112 ¶ 6.
Claims 5, 13	"too large," "user interface device," and "if the second navigation bar is too large for the second user interface, the processor renders different user interface device"	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.
Claims 7, 14	"is needed," "is not needed," and "determining if a drop-down navigation bar is needed"	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.

4. The '174 Patent

Asserted Claim(s)	Claim Term(s)	Invalidity Under 35 U.S.C. § 112
Claims 1, 10	"associated with," "receiving/receives a first directional input via the input device associated with the television," "determining/determines, based on a first direction associated with the first directional input, a second content	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the

Asserted Claim(s)	Claim Term(s)	Invalidity Under 35 U.S.C. § 112
	panel to display via the television in the application panel interface"	invention with reasonable certainty and/or lacks written description and enabling support.
Claims 1, 10	"input device"	The term requires construction as a means-plus-function limitation under 35 U.S.C. § 112 ¶ 6.
Claims 2, 11	"representative of," "retrieving/retrieve, from a memory, a first image that is representative of the at least one of content source and the content information"	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.
Claim 4	"associated with," "determining, based on a second direction associated with the second directional input, a third content panel to display via the television."	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.
Claim 5, 13	"associated with," "displaying/display, via the television, the content information associated with the determined source"	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.
Claim 7	"associated with," and "wherein the second content information comprises information associated with TV series episode content information"	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.

5. The ’040 Patent

Asserted Claim(s)	Claim Term(s)	Invalidity Under 35 U.S.C. § 112
Claims 1, 11, 21	“associated with,” “indication associated with a selection by a user,” “highlighted as being associated,” “wherein at least one of the sources is highlighted as being associated with the first content information”	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.
Claims 2, 12	“associated with,” “identifying a user associated with the received indication,” “retrieving one or more settings associated with the identified user,” “retrieving, from memory, content information associated with the identified user”	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.
Claims 3, 13	“associated with,” “identifying a user associated with the received indication,” “retrieving, from memory, one or more settings associated with the identified user,” “retrieving, from memory, content information associated with the identified user and the one or more settings associated with the user”	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.
Claims 4, 14	“associated with,” “receiving a second indication associated with a selection by a user”	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.

6. The ’384 Patent

Asserted Claim(s)	Claim Term(s)	Invalidity Under 35 U.S.C. § 112
Claims 1, 6	“a master view,” “a characteristic,” “a	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2

Asserted Claim(s)	Claim Term(s)	Invalidity Under 35 U.S.C. § 112
	collection view," "determining, by the processor, if the selection in the collection view is for a series or one of a movie or single show," "a navigation to view VOD content is an ordered set of user interfaces," "a top level," "a bottom level," and "two user-selectable devices."	because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support. In addition, the "navigation" limitation in claim 1, and the "user-selectable devices" limitation in claim 6, are recited as performing functions (*i.e.*, viewing VOD content and viewing a collection view, respectively), but lack a structure for performing those stated function. These terms therefore require construction as a means-plus-function limitation under pre-AIA 35 U.S.C. § 112 ¶ 6 and/or 35 U.S.C. § 112(f); *Williamson v. Citrix Online, LLC*, 792 F.3d 1339 (Fed. Cir. 2015) (en banc). Because the specification fails to disclose any corresponding structure for performing the required functions associated with these limitations, all Challenged Claims and/or claim 6 are invalid as indefinite under pre-AIA 35 U.S.C. ¶ 112, ¶ 2 and/or 35 U.S.C. § 112(b).
Claim 1	"navigation"	This term requires construction as a means-plus-function limitation under 35 U.S.C. § 112 ¶ 6 because it performs a function (i.e., viewing VOD content) but lacks a structure for performing the stated function. Because the specification fails to disclose any corresponding structure for performing the required function the claim is invalid as indefinite under 35 U.S.C. ¶ 112, ¶ 2.
Claim 6	"user-selectable devices," and "a collection view"	This claim is invalid under 35 U.S.C. § 112(a) and/or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fail to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.

7. The '003 Patent

Asserted Claim(s)	Claim Term(s)	Invalidity Under 35 U.S.C. § 112
Claims 1, 9, 17	"context information," "along at least one edge," "silo," "Live	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35

	TV silo," "on-demand silo," "media center silo," "applications silo," "information portion," "new portion," "recommended portion," "genre portion," "category portion,' "favorites portion," and "search portion"	U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.
Claims 1, 9, 17	"silo," "Live TV silo," "on-demand silo," "media center silo," "applications silo"	The terms require construction as a means-plus-function limitation under 35 U.S.C. § 112 ¶ 6.

8. The '805 Patent

Asserted Claim(s)	Claim Term(s)	Invalidity Under 35 U.S.C. § 112
Claims 1-2, 10-11, 17-18	"content provider module" and "subservice"	The claims are invalid under 35 U.S.C. § 112(b) or pre-AIA 35 U.S.C. § 112 ¶ 2 because the claim limitation fails to inform those skilled in the art about the scope of the invention with reasonable certainty.
Claims 3, 12	"serve one or more applications of the TV with EPG information in a read-only format"	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.
Claims 4, 13	"the media data provider is configured to provide media metadata personalized for a user"	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.
Claims 6, 15	"provide a real-time view of media sources" and "maintain a list of connected media sources"	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.

Asserted Claim(s)	Claim Term(s)	Invalidity Under 35 U.S.C. § 112
Claim 7	"the media browser maintains a non-permanent storage"	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.
Claims 9, 16	"other contents"	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.

9. The ’527 Patent

Asserted Claim(s)	Claim Term(s)	Invalidity Under 35 U.S.C. § 112
Claims 1, 7	“wherein the first view is sorted based on at least three of the metadata characteristics"	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.
Claim 7	“An intelligent television system comprising: … a processor in communication with the memory, the processor that: executes a VOD data service … receives content … determines metadata … creates a file … stores the metadata … receives a criteria … executes a user interface …"	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.

10. The ’255 Patent

Asserted Claim(s)	Claim Term(s)	Invalidity Under 35 U.S.C. § 112
Claims 1, 3, 10, 12, 13, 19, 20	“associated with,” and “a processor associated with the intelligent television/TV,” “substantially simultaneously,” “substantially an entire area of a screen of the TV,” “determine/determining, by the processor and in response to receiving the first live TV application input, a first live TV application feature/a live application feature to present via the display,” “global panel feature/input,” “determine/determining, by the processor and in response to receiving the home screen input, a global panel feature to present via the display,” “the processor”	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.
Claims 19, 20	“input device”	The term requires construction as a means-plus-function limitation under 35 U.S.C. § 112 ¶ 6.
Claims 7, 16	“manager,” and “provider”	The claims are invalid under 35 U.S.C. § 112(a) and /or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fails to inform those skilled in the art about the scope of the invention with reasonable certainty and/or lacks written description and enabling support.

11. The ’325 Patent

Asserted Claim(s)	Claim Term(s)	Invalidity Under 35 U.S.C. § 112
Claim 1-8	“providing, by a processor of the intelligent television, a first catalog view,” “at	The claims are invalid under 35 U.S.C. § 112(a) and/or (b) or pre-AIA 35 U.S.C. § 112 ¶¶ 1, 2 because the claim limitations fail to inform those skilled in the art about the scope of the invention

	least three different items of VOD content on a display," "have a watched status," "a first user interface device," "sort," "a first selection of the first user interface device," "select between the three watched statuses," "a second catalog view of one or more different items of VOD content," "each with the first one of," "displayed with," "a second selection of the first user interface device," "the at least three different items of VOD content of the first catalog view," "a second one of the not watched status, the partially watched status, and the fully watched status," "a third catalog view of one or more different items of VOD content," and "each with the second one of."	with reasonable certainty and/or lacks written description and enabling support. In addition, the "a first user interface device" limitation is recited as performing a function (*i.e.*, sorting VOD content), but lacks a structure for performing its stated function. It therefore requires construction as a means-plus-function limitation under pre-AIA 35 U.S.C. § 112 ¶ 6 and/or 35 U.S.C. § 112(f); *Williamson v. Citrix Online, LLC*, 792 F.3d 1339 (Fed. Cir. 2015) (en banc). Because the specification fails to disclose any corresponding structure for performing the required functions associated with these limitations, all Challenged Claims are invalid as indefinite under pre-AIA 35 U.S.C. ¶ 112, ¶ 2 and/or 35 U.S.C. § 112(b).

VI. SECTION 101 DEFENSES (SUBJECT-MATTER ELIGIBILITY CONTENTIONS)

The asserted claims of the Asserted Patents are invalid because they do not constitute patentable subject matter under 35 U.S.C. § 101. Section 101 broadly provides that "[w]however invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." 35 U.S.C. § 101. However, this section "contains an important implicit exception: laws of nature, natural phenomena, and abstract ideas are not patentable." *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2354 (2014); *see also Bilski*

v. Kappos, 561 U.S. 593, 601 (2010) (citation omitted). The asserted claims in this case all claim a patent ineligible abstract idea.

A section 101 analysis consists of a "two-step analytical framework to identify patents that, in essence, claim nothing more than abstract ideas." *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1347 (Fed. Cir. 2016).

First, the Court must determine whether the claims are "directed to" a patent-ineligible concept, such as an abstract idea. *Alice*, 134 S. Ct. at 2355. Courts "treat[] analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category." *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1146 (Fed. Cir. 2016). Method claims that describe concepts "long practiced in our society" have also been found to be directed to an abstract idea. *Intell. Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1369-70 (Fed. Cir. 2015); *Content Extraction & Transmission LLC v. Wells Fargo Bank*, 776 F.3d 1343, 1347 (Fed. Cir. 2014) ("The concept of data collection, recognition and storage is undisputedly well-known. Indeed, humans have always performed these functions."). And, "the essentially result-focused, functional character of claim language has been a frequent feature of claims held ineligible under § 101, especially in the area of using generic computer and network technology to carry out economic transactions." *Elec. Power Grp., LLC v. Alstom S.A.,* 830 F.3d 1350, 1356 (Fed. Cir. 2016).

Second, the claim limitations are examined for an "inventive concept." *Alice,* 134 S. Ct. at 2355. "The prohibition against patenting abstract ideas cannot be circumvented by attempting to limit the use of [the idea] to a particular technological environment," *Id.* at 2358, nor is it sufficient to "append[] . . . well-understood, routine, conventional activities previously engaged

in by workers in the field." *Intell. Ventures I LLC v. Symantec Corp.,* 838 F.3d 1307, 1313 (Fed. Cir. 2016) (quotation omitted). Ultimately, "[c]laims that amount to nothing significantly more than an instruction to apply [an] abstract idea . . . using some unspecific, generic computer and in which each step does no more than require a generic computer to perform generic computer functions do not make an abstract idea patent-eligible." *Id.* at 1315 (quotations and citations omitted); *see In re TLI Commc'ns LLC Patent Litig.,* 823 F.3d 607, 613 (Fed. Cir. 2016).

The asserted claims of the Asserted Patents recite unpatentable subject matter under 35 U.S.C. § 101 as detailed in Defendants' Subject Matter Eligibility Contentions, shown in the table below:

Patent	Exhibit
'255 Patent	Exhibit INV-255-C
'168 Patent	Exhibit INV-168-C
'174 Patent	Exhibit INV-174-C
'040 Patent	Exhibit INV-040-C
'384 Patent	Exhibit INV-384-C
'805 Patent	Exhibit INV-805-C
'527 Patent	Exhibit INV-527-C
'325 Patent	Exhibit INV-325-C
'291 Patent	Exhibit INV-291-C
'254 Patent	Exhibit INV-254-C
'003 Patent	Exhibit INV-003-C

Pursuant to Section (b) of the Court's Standing Order Regarding Subject Matter Eligibility Contentions, Defendants further identify the following documents and materials upon which Defendants may rely for the purposes of demonstrating that each of the Asserted Claims do not qualify as patent-eligible subject matter.

Prior Art Patents, Applications, and Publications

Patent	Country of Origin	First Named Inventor	Filing Date/Priority Date	Published/Issued Date	Short Name
5,905,521	US	Gatto	11/06/1995	05/18/1999	Gatto

Patent	Country of Origin	First Named Inventor	Filing Date/Priority Date	Published/Issued Date	Short Name
4,315,309	US	Coli	06/25/1979	02/9/1982	Coli
4,454,575	US	Bushaw	12/29/1980/	06/12/1984	Bushaw
4,4545,576	US	McInroy	05/18/1981	06/12/1984	McInroy
5,423,033	US	Yuen	09/30/1992	06/06/1995	Yuen
5,539,822	US	Lett	04/19/1994	07/23/1996	Lett
5,654,747	US	Ottesen	12/29/1994	08/05/1997	Ottesen
6,047,319	US	Olsen	07/17/1996	04/04/2000	Olson
7,380,031	US	Jones	12/21/2005	05/27/2008	Jones
9,277,249	US	Guzman	07/24/2012	03/01/2016	Guzman
2006/0195856	US	Solomon	02/25/2005	08/31/2006	Solomon

Non-Patent Prior Art Publications

Author / Publisher	Reference Title	Publication Date	Short Name
Stallionzo	Smart TV History: What Year Did Smart TV Come Out?	2007	Stallionzo
Magid – LA Times	WebTV May Not Be for Everyone, but It's a Step in the Right Direction	09/30/1996	Magid
MSN TV - Wikipedia	MSN TV	n/d	MSN TV - Wikipedia
Mohammadi	HP MediaSmart TV	11/12/2007	Mohammadi
Murph	LG to release first HDTVs that instantly stream movies from Netflix	01/05/2009	Murph
Reuters Staff	Netflix and Vizio to stream films to high-def TVs	01/07/2009	Reuters
Fermosa	Vizio's Wireless TV Connects to the Web Through New 'Widget Stream'	01/08/2009	Fermosa
Google TV - Wikipedia	Google TV (operating system)	2010	Google TV - Wikipedia
Netflix	Netflix Help Center - How to use Netflix on your Apple TV	n/d	Netflix
Apple TV	Wikipedia Apple TV	2007	Apple TV
Levy – Science & Tech	Graphical User Interface Computing	n/d	Levy
Wikipedia	History of the graphical user interface - The history of the graphical user interface, understood as the use of graphic icons and a pointing device to control a computer, covers a five-decade span of incremental refinements, built on some constant core	n/d	Wikipedia

Author / Publisher	Reference Title	Publication Date	Short Name
	principles.		
Reimer – Ars Technica	A History of the GUI Have you ever wondered about the genealogy of the graphical user interface.	05/04/2005	Reimer
Windows 95	GUIs	n/d	Windows 95
Verge Staff	Apple, IOS: A VISUAL HISTORY	09/16/2013	Verge Staff
Apple Wiki	Apple TV (1st generation)	2007	Apple Wiki
Hackett	The Original Apple TV: Ushering in a New Era of Entertainment	11/14/2017	Hackett
Tarr	Samsung UN55D8000 LED LCF HDTV – First Review	04/18/2021	Tarr
Katzmaier	Samsung UNC7000 series LED-based LCD	03/09/2010	Katzmeier
Tarr II	VIZIO ADDS NEW HDTV MODELS FOR THE HOLIDAY SEASON	10/02/2012	Tarr II
King	VIZIO introduces new line of LED backlit LCD HDTVs; sizes range from 16" to 72." VIZIO has unleashed details of its new LCD HDTV catalog at CES 2010, and they've got 37 new displays in the XVT and M Series lines, ranging from 16-inch to 72-inch wide-angle screens.	01/07/2010	King
Wilkinson	Vizio M3D650SV 3D LED-LCD TV	02/14/2012	Wilkinson
Wiley - LCD TV	Vizio XVT472SV TV Review: LCD LED HDTV	2010	Wiley - LCD TV
Tarr III	VIZIO'S 2011 HDTV LINE	02/03/2011	Tarr III
Nielson	Celebrating 95 Years of Innovations		Nielson History
TIVO	Form 10-K for Fiscal Year Ended January 31, 2008	2008	TIVO 10-K

Prior Art Systems

System Name	Date of Offer / Use / Disclosure	Relevant Person / Entity	Short Name
Vizio M3D650SV 3D LED-LCD TV	at least as early as 2012	Vizio	Vizio M3D650SV 3D LED-LCD TV
Vizio XVT472SV	at least as early as 2010	Vizio	Vizio XVT472SV
VIZIO'S 2011 HDTV	at least as early as 2011	Vizio	VIZIO'S 2011 HDTV
Samsung UNC7000	at least as early as 2010	Samsung	Samsung UNC7000

System Name	Date of Offer / Use / Disclosure	Relevant Person / Entity	Short Name
Samsung UN55D8000 LED LCF HDTV	at least as early as 2011	Samsung	Samsung UN55D8000 LED LCF HDTV
Apple TV	at least as early as 2001	Apple	Apple TV
Windows 95	at least as early as 1995	Microsoft	Windows 95
HP MediaSmart TV	at least as early as 2007	HP	HP MediaSmart TV
MSN TV	at least as early as 2001	Microsoft	MSN TV
Google TV	at least as early as 2010	Google	Google TV
Netflix	at least as early as 2010	Netflix	Netflix
Nielson	at least as early as 2008	Nielson	Nielson
TIVO	at least as early as 1999	TIVO	TIVO

VII. P.R. 3-4 DOCUMENT PRODUCTION

A. Documents Related to the Accused Products/Instrumentalities Under P.R. 3-4(a)

Pursuant to P. R. 3-4(a), Defendants have produced documents labeled with Bates Nos. LGE00001123-LGE00053111, which are sufficient to show the operation of the Accused Products that are purportedly identified by Plaintiff in its P.R. 3-1(c) charts. Defendants will further make the relevant source code available for inspection pursuant to the Protective Order.

B. Documents Related to Prior Art Under P.R. 3-4(b)

Pursuant to P. R. 3-4(b), Defendants are producing concurrently herewith documents labeled with Bates Nos. LGE00053112-LGE00063265, reflecting the prior art references identified above and/or in the attached charts in connection with Defendants' P. R. 3-3(a) disclosures. Defendants further reserve the right to supplement their accompanying P.R. 3-4(b) document production should it later discover additional prior art documents, information,

testimony, prior art systems and related documentation, and/or software or hardware code, including but not limited to information provided by third parties after the date of service of these Invalidity Contentions.

Dated: September 28, 2023

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that the foregoing document was served on September 28, 2023, via electronic mail to all counsel of record who are deemed to have consented to electronic service per Local Rule CV-5(d).

/s/ Collin W. Park
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