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**UNITED STATES DISTRICT COURT  
CENTRAL DISTRICT OF CALIFORNIA**

MAXELL, LTD.,

Plaintiff,

v.

VIZIO, INC.,

Defendant.

Case No. 2:21-cv-06758-GW (DFMx)

**DEFENDANT VIZIO, INC.'S  
CORRECTED INVALIDITY  
CONTENTIONS**

Hon. George Wu

1 Pursuant to the Court's Minute Order (Dkt. 115), Defendant VIZIO, Inc.  
2 ("VIZIO") hereby provides its contentions regarding the invalidity of the patent claims  
3 asserted by Maxell, Ltd. ("Maxell" or "Plaintiff") in its Disclosure of Asserted Claims  
4 and Infringement Contentions dated May 31, 2022 ("Infringement Contentions"). These  
5 Invalidity Contentions address U.S. Patent No. 9,578,369 ("the '369 Patent"), U.S.  
6 Patent No. 10,321,206 ("the '206 Patent"), U.S. Patent No. 7,986,858 ("the '858  
7 Patent"), U.S. Patent No. 7,730,507 ("the '507 Patent"), and U.S. Patent No. 7,760,213  
8 ("the '213 Patent") ("Asserted Patents").

9 The Invalidity Contentions set forth below are based on information currently  
10 available to VIZIO. VIZIO's investigation and analysis of prior art is ongoing, and  
11 VIZIO reserves the right to supplement or modify these Invalidity Contentions based on  
12 further discovery and in a manner consistent with the Federal Rules of Civil Procedure  
13 and the Court's rules. In accordance with the Court's Minute Order, the parties have yet  
14 to exchange claim constructions, brief claim construction positions, or conduct claim  
15 construction discovery, and the claim construction hearing is set for December 1, 2022.  
16 Thus, in the absence of a claim construction order from the Court, VIZIO has relied  
17 upon the Plaintiff's apparent interpretation of the asserted claims of the Asserted Patents  
18 as reflected in Plaintiff's Infringement Contentions (to the extent any construction is  
19 evidenced by Plaintiff's application of the claims in such contentions). The reliance  
20 upon those apparent interpretations should not be taken to mean that VIZIO necessarily  
21 agrees with such interpretations or that VIZIO is precluded from propounding  
22 alternative claim constructions. Further, no inference is intended nor should any be  
23 drawn that the claim limitations satisfy 35 U.S.C. § 112, and VIZIO reserves the right to  
24 contend otherwise.

25 If Plaintiff modifies any assertion or contention in the Infringement Contentions,  
26 or presents any new assertion or contention relevant to these Invalidity Contentions,  
27 VIZIO reserves the right to supplement or otherwise amend these Invalidity  
28 Contentions, including the charts attached hereto as Exhibits.

1 The obviousness combinations of references under 35 U.S.C. § 103 are merely  
2 exemplary and are not intended to be exhaustive. Numerous additional obviousness  
3 combinations of the references identified below are possible, and VIZIO reserves the  
4 right to use any such combination in this litigation.

5 Because VIZIO's investigation regarding the invalidity of the Asserted Patents  
6 over prior art and other grounds of invalidity is not yet complete, certain defenses,  
7 including, for example, knowledge or use by others, public use or on-sale bar, derivation  
8 or prior inventorship, fulfillment of the best mode requirement, inequitable conduct,  
9 laches and estoppel, may only become apparent as additional information becomes  
10 available. Other possible references may also arise from VIZIO's ongoing investigative  
11 efforts, which might establish additional defenses. Additional prior art may also be  
12 identified through discovery from Plaintiff and, further, through third-party discovery  
13 that may be sought or become relevant in light of Plaintiff's positions and contentions  
14 taken in this action. Accordingly, VIZIO reserves its right to modify, amend and/or  
15 supplement these contentions as information becomes available, and as discovery  
16 proceeds. VIZIO reserves its rights to supplement and/or modify the Invalidity  
17 Contentions based on such discovery.

18 VIZIO adopts and incorporates by reference herein: (1) any and all materials  
19 contained in documents produced thus far by Plaintiff to VIZIO in this case, and (2) any  
20 and all additional materials regarding invalidity that should have been produced to  
21 VIZIO by Plaintiff but have not been produced to date, to the extent that any exist.  
22 VIZIO reserves the right to identify other art or to supplement the disclosures or  
23 contentions for the following reasons:

24 (i) VIZIO's position on the invalidity of particular claims will depend on how  
25 those claims are construed by the Court, the USPTO, PTAB, or in other proceedings  
26 involving Plaintiff. Since claim construction has not yet occurred, VIZIO cannot take a  
27 final position on the bases for invalidity of the claims; indeed the Court, the USPTO, the  
28 PTAB, or other proceedings involving Plaintiff may construe those claims to mean

1 something different from what VIZIO presently presumes them to mean, as noted  
2 above, for purposes of these Invalidity Contentions.

3 (ii) VIZIO has not yet completed its search for prior art and support for its  
4 obviousness rationales.

5 (iii) VIZIO has not yet completed its discovery from Plaintiff. Depositions of  
6 the person(s) involved in the drafting and prosecution of the asserted patents, of the  
7 inventors of the Asserted Patents, and of the previous assignees of the Asserted Patents,  
8 for instance, will likely reveal information that affects the disclosures and contentions  
9 herein.

10 (iv) VIZIO has not yet completed its discovery from third parties who may  
11 have information concerning additional prior art and further information regarding the  
12 prior art identified herein. Such discovery may also reveal information that affects the  
13 disclosures and contentions herein.

14 (v) VIZIO has not completed its discovery from Plaintiff's experts.  
15 Information disclosed in expert reports or depositions will likely reveal information that  
16 affects the disclosures and contentions herein.

17 VIZIO reserves the right to prove the invalidity of the asserted claims on bases  
18 other than those required to be disclosed herein. VIZIO incorporates by reference all  
19 arguments and evidence of invalidity presented in the petition for *inter partes* review in  
20 Case Nos. IPR2020-01598 and in any future petitions for *inter partes* review, or future  
21 requests for reexamination regarding the Asserted Patents.

## 22 I. INTRODUCTION

23 In Plaintiff's Infringement Contentions, Plaintiff asserted the following claims of  
24 the Asserted Patents (collectively, "Asserted Claims"):

- 25 1. '369 Patent: 1, 2, 3, 10, 11, and 12;
- 26 2. '206 Patent: 1-5, 8-13, and 16-17;
- 27 3. '858 Patent: 1, 4, 7, and 10;

4. '507 Patent: 1, 2, 10, and 13; and

5. '213 Patent: 1-5.

## II. U.S. PATENT NO. 9,578,369

### A. Identification of Prior Art

#### 1. Prior Art Patents and Patent Applications

Prior Art to U.S. Patent No. 9,578,369	
Patent / Published Application No.	Date of Issue or Publication
U.S. Patent No. 6,097,441	2000-08-01
U.S. Patent No. 6,637,028	2003-10-21
U.S. Patent No. 7,136,709	2006-11-14
U.S. Patent No. 7,650,621	2010-01-19
U.S. Patent No. 7,907,214	2011-03-15
U.S. Patent No. 8,063,989	2011-11-22
U.S. Patent No. 8,321,898	2012-11-07
U.S. Patent No. 8,863,187	2014-10-14
U.S. Patent No. 9,055,194	2015-06-09
U.S. Patent No. 9,247,175	2016-01-26
U.S. Patent No. 10,165,320	2018-12-25
U.S. Patent App. Pub. No. 2003/0131353	2003-07-10
U.S. Patent App. Pub. No. 2003/0188322	2003-10-02
U.S. Patent App. Pub. No. 2004/0003051	2004-01-01
U.S. Patent App. Pub. No. 2004/0031058	2004-02-12
U.S. Patent App. Pub. No. 2004/0210657	2004-10-21
U.S. Patent App. Pub. No. 2004/0243694	2004-12-02
U.S. Patent App. Pub. No. 2005/0096753	2005-05-05
U.S. Patent App. Pub. No. 2005/0110909	2005-05-26
U.S. Patent App. Pub. No. 2005/0262254	2005-11-24
U.S. Patent App. Pub. No. 2006/0015649	2006-01-19
U.S. Patent App. Pub. No. 2006/0064720	2006-03-23
U.S. Patent App. Pub. No. 2006/0117371	2006-06-01
U.S. Patent App. Pub. No. 2006/0149811	2006-07-06
U.S. Patent App. Pub. No. 2006/0172700	2006-08-03
U.S. Patent App. Pub. No. 2006/0253874	2006-11-09
U.S. Patent App. Pub. No. 2006/0262221	2006-11-23
U.S. Patent App. Pub. No. 2007/0094691	2007-04-26
U.S. Patent App. Pub. No. 2007/0136488	2007-06-14
U.S. Patent App. Pub. No. 2007/0124765	2007-05-31

**Prior Art to U.S. Patent No. 9,578,369**

<b>Patent / Published Application No.</b>	<b>Date of Issue or Publication</b>
U.S. Patent App. Pub. No. 2007/0124775	2007-05-31
U.S. Patent App. Pub. No. 2007/0155307	2007-07-05
U.S. Patent App. Pub. No. 2007/0165144	2007-07-19
U.S. Patent App. Pub. No. 2007/0191070	2007-08-16
U.S. Patent App. Pub. No. 2007/0195756	2007-08-23
U.S. Patent App. Pub. No. 2007/0216666	2007-09-20
U.S. Patent App. Pub. No. 2008/0311952	2008-12-18
U.S. Patent App. Pub. No. 2007/0290876	2008-12-20
U.S. Patent App. Pub. No. 2009/0067425	2009-03-12
U.S. Patent App. Pub. No. 2010/0173677	2010-07-08
EP1830558 266	2007-05-09
KR756555	2006-06-19
WO 2006/098263	2006-09-21
WO 2006/067954	2006-06-29
WO 2007/144682	2007-12-21
WO 2008/042458	2008-04-10

**2. Prior Art Non-Patent Publications**

**Prior Art to U.S. Patent No. 9,578,369**

<b>Title</b>	<b>Author(s)</b>	<b>Date of Publication (at least by)</b>
Application Level Session Hand-Off Management in a Ubiquitous Multimedia Environment	Letian Rong; Ian Burness	2004
Use Cases for Session Mobility in Multimedia Applications	Daisaku Komiya; Xu Mingqiang; Eunsoo Shim; Panasonic	2006-02-27
Use Cases for Session Mobility in Multimedia Applications	Daisaku Komiya; Xu Mingqiang; Eunsoo Shim	2006-02-27
Movable-Multimedia: Session Mobility in Ubiquitous Computing Ecosystem	Sujeet Mate; Urnesh Chandra; Igor D.D. Curcio	2006-12-04
Seamless User-Level Handoff in Ubiquitous	Yi Cui; Klara Nahrstedt; Dongyan Xu	2004

Prior Art to U.S. Patent No. 9,578,369		
Title	Author(s)	Date of Publication (at least by)
Multimedia Service Delivery		
Handbook of Image & Video Processing (2 <sup>nd</sup> Ed.)	Al Bovik	2005
Handbook of Image & Video Processing (1 <sup>st</sup> Ed.)	Al Bovik	2000
Spatial Resolution Enhancement of Low-Resolution Image Sequences A Comprehensive Review with Directions for Future Research	Sean Borman, Robert Stevenson	1998-07-08

#### **B. Anticipation And Obviousness Allegations and Claim Charts<sup>1</sup>**

Exhibits A-101 – A-105 and A-201 – A-215 attached hereto contain charts for prior art that anticipates and/or renders obvious the asserted claims of the '369 Patent, and identifying where specifically in the alleged prior art each limitation of each asserted claim is found. Further, VIZIO incorporates herein by reference the contentions regarding where specifically in the alleged prior art each limitation of each asserted claim is found as set forth in the petition for *inter partes* review in Case No. IPR2020-01598. VIZIO further incorporates by reference prior art references of record before the USPTO during prosecution of the '369 Patent and any related patents/applications or proceedings.

In the absence of a claim construction order from the Court, VIZIO has relied upon the Plaintiff's apparent interpretation of the Asserted Claims of the Asserted Patents as reflected in Plaintiff's Infringement Contentions (to the extent any construction is evidenced by Plaintiff's application of the claims in such contentions).

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<sup>1</sup> The earliest possible effective filing date of the '369 Patent is September 26, 2007. Thus the pre-AIA provisions of Title 35 apply.

1 This reliance upon those apparent interpretations should not be taken to mean that  
2 VIZIO necessarily agrees with such interpretations or that VIZIO is precluded from  
3 propounding alternative claim constructions.

4 To the extent any limitation is deemed not to be met exactly by an item of prior  
5 art, VIZIO submits that the difference would have been obvious to a person of ordinary  
6 skill in the art and within the knowledge of one skilled in the art at the time of the  
7 alleged invention, so that the claimed invention would have been obvious in light of the  
8 single reference alone or combined with other references and/or the knowledge of one  
9 skilled in the art. Further, to the extent that any claim element or limitation is not  
10 expressly or inherently disclosed in a prior art reference, it would have been within the  
11 skill, knowledge, and/or understanding of one of ordinary skill in the art that the  
12 disclosures of the reference could readily be modified or adapted so as to meet the  
13 element or limitation.

14 As a general matter, all portions of each prior art reference are relied upon to  
15 support the disclosure of each patent claim limitation, as all portions provide general  
16 support. Supporting citations are nevertheless provided, but do not necessarily represent  
17 every location where a particular claim term may be found in the prior art reference.  
18 VIZIO reserves the right to rely on additional, or different, portions of the prior art  
19 references other than those specifically cited in the claims chart provided herewith.

20 VIZIO reserves the right to supplement and/or amend these contentions based on  
21 the above-identified prior art considered individually or in combination with additional  
22 information learned during discovery and/or the Court's claim construction ruling.

23 In addition, VIZIO may become aware of additional references as discovery  
24 progresses, and VIZIO reserves the right to use such references to demonstrate that the  
25 asserted claims of the asserted patents are invalid as anticipated or obvious.

### 26 **1. Anticipation and Obviousness**

27 The elements of the prior art references in Exhibits A-101 – A-105 that  
28 correspond to the claim limitations as shown in the charts can also be combined for the



purpose of demonstrating anticipation, including through inherency, under 35 U.S.C. § 102 and/or rendering the claims obvious under 35 U.S.C. § 103. Accordingly, each of these prior art references can be combined with each other to render the asserted claims of the '369 Patent anticipated, including through inherency, or obvious.

## **2. Prior Art Combinations**

To the extent not anticipated, VIZIO submits that it would have been obvious, and within the skill and motivations of a person of ordinary skill in the art, to combine features of the disclosures of the attached references and/or the person's knowledge with the disclosures of other references lacking explicit disclosures of the features of any asserted claims, such that the subject matter of the asserted claims, as a whole, would have been obvious to one of ordinary skill in the art. To the extent it is argued that the foregoing references do not disclose a teaching, suggestion, and/or motivation to combine prior art references, the combination would have been obvious to a person of ordinary skill in the art at least because it would have no unexpected results, would simply represent a known alternative, would have been a simple and obvious substitution of one known element for another, and/or would have been the mere obvious application of a known technique to a piece of prior art ready for the improvement. *See KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1739-40 (2007) (rejecting a "rigid" application of the teaching, suggestion, or motivation to combine test, instead espousing an "expansive and flexible" approach).

The invalidity charts in Exhibits A-201 – A-215 show exemplary combinations of references that render the asserted claims obvious. In addition, each prior art reference charted in Exhibits A-101 – A-105 can each be combined with other prior art identified above and/or the knowledge of a person of ordinary skill in the art to render the claims of the '369 Patent obvious. Individual prior art references in the tables above can be combined with each other to render the claims obvious. Further, to the extent that any claim element or limitation is not expressly or inherently disclosed in a prior art reference, it would have been within the skill, knowledge, and/or understanding on one

1 of ordinary skill in the art that the disclosures of the reference could readily be modified  
2 or adapted so as to meet the element or limitation.

3 To the extent that a prior art reference may not fully disclose an element of an  
4 asserted claim or is alleged to lack disclosure of a particular claim element, such claim  
5 element is present and identified in another prior art reference. It would have been  
6 obvious to combine the disclosed claim elements based on the teachings of other art in  
7 existence at that time, the general knowledge of a person of ordinary skill in the art, and  
8 the recognition of similarities between the art and the claimed features. On an element-  
9 by-element basis, therefore, VIZIO intends to combine one or more prior art references  
10 cited herein if Plaintiff contends that a particular prior art reference lacks one or more  
11 elements of an asserted claim. In other words, VIZIO submits that each charted prior art  
12 reference can be combined with other charted prior art references if a particular prior art  
13 reference lacks or does not explicitly disclose an element or feature of an asserted claim.

14 In this manner, any element of an asserted claim can easily be identified by cross-  
15 reference to the same particular claim element in other charted prior art reference to  
16 show that the element was known in the prior art, an inherent feature of an element not  
17 otherwise fully disclosed, and/or an obvious addition or modification to the disclosed  
18 claim elements. Furthermore, identifying supporting disclosures between corresponding  
19 elements in this manner improves the brevity and clarity of the claim charts, while  
20 providing Plaintiff with notice of VIZIO's intent to rely upon the charted elements of  
21 each claim chart in Exhibits A-101 – A-105 and A-201 – A-215 to show anticipation,  
22 including through inherency, or obviousness.

23 Any obviousness combinations, including those reflected in the attached  
24 invalidity charts, are in the alternative to VIZIO's anticipation contentions and are not to  
25 be construed to suggest that any reference is not anticipatory. In particular, VIZIO is  
26 currently unaware of the extent, if any, to which Plaintiff will contend that the  
27 limitations of the claims at issue are not disclosed in the art identified by VIZIO as  
28 anticipatory. To the extent that an issue arises with respect to any such limitation,

VIZIO reserves the right to identify other references and combinations, which may make obvious the addition of the allegedly missing limitation to the disclosed device, method, system, or any related characteristics.

In addition, common knowledge of those of ordinary skill in the art can be prior art and may be relied on by VIZIO by way of testimony or declarations in combination with the above prior art publications and patents. This includes knowledge of well-known technology and various industry standards and protocols.

Notably, all of the following recognized rationales support a finding of obviousness:

Combining prior art elements according to known methods to yield predictable results;

Simple substitution of one known element for another to obtain predictable results;

Use of known technique to improve similar devices (methods, or products) in the same way;

Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;

“Obvious to try”—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;

Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art; and

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

A person of ordinary skill in the art would have been motivated to combine the above references, as each reference relates to selecting and/or controlling the display of video content on display apparatus based on information provided by a mobile terminal

1 and/or transferring the display of video content being displayed on the mobile terminal  
2 to the display apparatus. As the prior art relates to a similar field of art, it would have  
3 been obvious to one skilled in the art to combine the related technologies. Accordingly,  
4 one of ordinary skill in the art would have recognized that the results of the  
5 combinations were predictable, and would have been clearly motivated to modify and  
6 combine the prior art references identified above to arrive at the alleged inventions of  
7 claims of the asserted patents.

8 Each of the separate elements of the asserted claims of the '369 Patent was well  
9 known to those of ordinary skill in the art before the date of invention, as demonstrated  
10 in the prior art listed above. Further, the elements recited in the asserted claims of the  
11 '369 Patent are simply combinations and modifications of these well-known elements.  
12 A person of ordinary skill in the art would have been able, and motivated, to improve  
13 the existing technology in the same or similar manner by combining or modifying the  
14 individual elements that were already known in the art to yield predictable results.

## 15 **C. Grounds of Invalidity under 35 U.S.C. § 101 or § 112**

### 16 **1. Invalidity Under §112**

17 Because the present litigation is in its early stages, VIZIO has yet to fully determine  
18 all claim terms that may lack an enabling disclosure or written description or that fail to  
19 meet the “definiteness” requirement of 35 U.S.C. § 112.<sup>2</sup> VIZIO therefore reserves the  
20 right to supplement its Invalidity Contentions to identify those terms that fail under 35  
21 U.S.C. § 112.

22 Nevertheless, subject to claim construction, VIZIO identifies the following  
23 exemplary claim terms as lacking an enabling disclosure or written description under  
24 35 U.S.C. § 112:

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25  
26 <sup>2</sup> Plaintiff proposed claim constructions for certain claim terms of the '369 Patent  
27 (e.g., “communication unit,” “control unit,” “first information,” “second information,”  
28 and “third information”) in its briefing relating to VIZIO’s motion to dismiss under 35  
U.S.C. § 101. *See* Case No. 2:21-cv-06758-GW-DFM, Dkt. 81 (C.D. Cal.). If such  
terms are construed as Maxell proposes, they would fail to meet at least the  
“definiteness” requirement of 35 U.S.C. § 112.

- 1 • “A display apparatus for displaying a video content acquired via a
- 2 broadcast signal or via the internet”;
- 3 • “An information processing apparatus for displaying a content acquired
- 4 via the internet”;
- 5 • “a control unit arranged to control the display unit”;
- 6 • “control the display unit to terminate displaying of the first video content
- 7 and to start displaying a second video content acquired via the internet
- 8 when the communication unit receives first information from the mobile
- 9 terminal”;
- 10 • “control the display unit to terminate displaying of the broadcast video
- 11 content and to start displaying an internet video content acquired via the
- 12 internet when the communication unit receives first information from the
- 13 mobile terminal”;
- 14 • “control the display unit to terminate displaying of the first video content
- 15 and to start displaying a second video content acquired via the internet
- 16 when a first communication between the mobile terminal and the
- 17 information processing apparatus is conducted”;
- 18 • “control the display unit to terminate displaying of the first video content
- 19 and to start displaying a second video content acquired via the internet
- 20 when a first communication between the mobile terminal and the display
- 21 apparatus is conducted”;
- 22 • “the second video content is a same video content as a video content
- 23 displayed on the mobile terminal before the mobile terminal sends the first
- 24 information”;
- 25 • “the internet video content acquired via the internet is a same video content
- 26 as an internet video content displayed on the mobile terminal before the
- 27 mobile terminal sends the first information to the display apparatus”;
- 28

- 1 • “the second video content is a same video content as a video content  
2 displayed on the mobile terminal before the first communication is  
3 conducted”;
- 4 • “a state of displaying of the video content on the mobile terminal at a time  
5 when the first information is sent from the mobile terminal is taken over to  
6 a state of displaying of the second video content on the display unit at a  
7 time when the display unit starts displaying the second video content, based  
8 on the first information”;
- 9 • “a state of displaying of the internet video content on the mobile terminal  
10 at a time when the first information is sent from the mobile terminal is  
11 taken over to a state of displaying of the internet video content on the  
12 display unit at a time when the display unit starts to display the internet  
13 video content, based on the first information”;
- 14 • “a state of displaying of the video content on the mobile terminal at a time  
15 when the first communication is conducted is taken over to a state of  
16 displaying of the second video content on the display unit at a time when  
17 the display unit starts to display the second video content, based on the first  
18 communication”;
- 19 • “control displaying of the second video content on the display unit based  
20 on second information for operating the second video content displayed on  
21 the display unit when the communication unit receives the second  
22 information from the mobile terminal”;
- 23 • “control displaying of the internet video content on the display unit based  
24 on second information for operating the internet video content displayed on  
25 the display unit when the communication unit receives the second  
26 information from the mobile terminal”;
- 27 • “control displaying of the second video content on the display unit based  
28 on a second communication between the mobile terminal and the

1 *information processing apparatus for operating the second video content*  
2 *displayed on the display unit when the second communication is*  
3 *conducted”;*

- 4 • *“control displaying of the second video content on the display unit based*  
5 *on a second communication between the mobile terminal and the display*  
6 *apparatus for operating the second video content displayed on the display*  
7 *unit when the second communication is conducted”;* and
- 8 • *“a video processing unit to conduct video processing to both a video*  
9 *content acquired via the broadcast signal and a video content acquired via*  
10 *the internet.”*

11 Subject to claim construction, VIZIO identifies the following exemplary claims  
12 terms as failing to meet the “definiteness” requirement of 35 U.S.C. § 112:

- 13 • *“a control unit arranged to control the display unit”;*
- 14 • *“control the display unit to terminate displaying of the first video content*  
15 *and to start displaying a second video content acquired via the internet*  
16 *when the communication unit receives first information from the mobile*  
17 *terminal”;*
- 18 • *“control the display unit to terminate displaying of the broadcast video*  
19 *content and to start displaying an internet video content acquired via the*  
20 *internet when the communication unit receives first information from the*  
21 *mobile terminal”;*
- 22 • *“control the display unit to terminate displaying of the first video content*  
23 *and to start displaying a second video content acquired via the internet*  
24 *when a first communication between the mobile terminal and the*  
25 *information processing apparatus is conducted”;*
- 26 • *“control the display unit to terminate displaying of the first video content*  
27 *and to start displaying a second video content acquired via the internet*  
28

1           *when a first communication between the mobile terminal and the display*  
2           *apparatus is conducted”;*

- 3           • *“a state of displaying of the video content on the mobile terminal at a time*  
4           *when the first information is sent from the mobile terminal is taken over to*  
5           *a state of displaying of the second video content on the display unit at a*  
6           *time when the display unit starts displaying the second video content, based*  
7           *on the first information”;*
- 8           • *“a state of displaying of the internet video content on the mobile terminal*  
9           *at a time when the first information is sent from the mobile terminal is*  
10           *taken over to a state of displaying of the internet video content on the*  
11           *display unit at a time when the display unit starts to display the internet*  
12           *video content, based on the first information”;*
- 13           • *“a state of displaying of the video content on the mobile terminal at a time*  
14           *when the first communication is conducted is taken over to a state of*  
15           *displaying of the second video content on the display unit at a time when*  
16           *the display unit starts to display the second video content, based on the first*  
17           *communication”;*
- 18           • *“control displaying of the second video content on the display unit based*  
19           *on second information for operating the second video content displayed on*  
20           *the display unit when the communication unit receives the second*  
21           *information from the mobile terminal”;*
- 22           • *“control displaying of the internet video content on the display unit based*  
23           *on second information for operating the internet video content displayed on*  
24           *the display unit when the communication unit receives the second*  
25           *information from the mobile terminal”;*
- 26           • *“control displaying of the second video content on the display unit based*  
27           *on a second communication between the mobile terminal and the*  
28           *information processing apparatus for operating the second video content*



1           *displayed on the display unit when the second communication is*  
2           *conducted”;*

- 3           • *“control displaying of the second video content on the display unit based*  
4           *on a second communication between the mobile terminal and the display*  
5           *apparatus for operating the second video content displayed on the display*  
6           *unit when the second communication is conducted”;* and  
7           • *“a video processing unit to conduct video processing to both a video*  
8           *content acquired via the broadcast signal and a video content acquired via*  
9           *the internet.”*

## 10           **2.     Invalidity Under § 101**

11           In addition, the claims are patent ineligible under 35 U.S.C. § 101 because they  
12           are directed to the abstract idea of a viewer stopping content on one device and playing  
13           that content on a second device, fail to provide an inventive concept, and require no  
14           improved components or hardware. Further, VIZIO incorporates herein by reference its  
15           35 U.S.C. § 101 briefing in this case. *See* Case No. 2:21-cv-06758-GW-DFM, Dkts. 47,  
16           59, 84 (C.D. Cal.).

## 17           **III.    U.S. PATENT NO. 10,321,206**

### 18           **A.     Identification of Prior Art**

#### 19           **1.     Prior Art Patents and Patent Applications**

20 <b>Prior Art to U.S. Patent No. 10,321,206</b>	
21 <b>Patent / Published Application No.</b>	<b>Date of Issue or Publication</b>
22           U.S. Patent No. 5,907,321	1999-05-25
23           U.S. Patent No. 7,053,964	2006-05-30
24           U.S. Patent No. 7,702,222	2010-04-20
25           U.S. Patent No. 7,877,775	2011-01-25
26           U.S. Patent No. 8,056,113	2011-11-08
27           U.S. Patent No. 8,666,452	2014-03-04
28           U.S. Patent No. 8,941,782	2015-01-27
U.S. Patent No. 9,195,481	2015-11-24
U.S. Patent No. 9,342,354	2016-05-17
U.S. Patent No. 9,632,692	2015-02-26

**Prior Art to U.S. Patent No. 10,321,206**

<b>Patent / Published Application No.</b>	<b>Date of Issue or Publication</b>
U.S. Patent No. 9,690,621	2015-06-11
U.S. Patent No. 9,830,167	2017-11-28
U.S. Patent No. 9,866,895	2018-01-09
U.S. Patent No. 9,965,015	2018-05-08
U.S. Patent No. 9,967,613	2018-05-08
U.S. Patent No. 10,031,772	2018-07-24
U.S. Patent No. 10,080,966	2018-09-25
U.S. Patent No. 10,263,912	2019-04-16
U.S. Patent No. 10,387,537	2019-08-20
U.S. Patent No. 10,521,240	2019-12-31
U.S. Patent No. 10,579,242	2020-03-03
U.S. Patent No. 10,681,419	2020-06-09
U.S. Patent No. 10,924,813	2021-02-16
U.S. Patent App. Pub. No. 2002/0087973	2002-06-04
U.S. Patent App. Pub. No. 2005/0032544	2005-02-10
U.S. Patent App. Pub. No. 2007/0061806	2007-03-15
U.S. Patent App. Pub. No. 2008/0037416	2008-02-14
U.S. Patent App. Pub. No. 2009/0319375	2009-12-24
U.S. Patent App. Pub. No. 2012/0170666	2012-07-05
U.S. Patent App. Pub. No. 2013/0283275	2013-10-24
U.S. Patent App. Pub. No. 2013/0347002	2013-12-26
U.S. Patent App. Pub. No. 2014/0013271	2014-01-09
U.S. Patent App. Pub. No. 2014/0068695	2014-03-06
U.S. Patent App. Pub. No. 2014/0123151	2014-05-01
U.S. Patent App. Pub. No. 2015/0333971	2015-11-19
U.S. Patent App. Pub. No. 2016/0286023	2016-09-29
U.S. Patent App. Pub. No. 2016/0357394	2016-12-08
U.S. Patent App. Pub. No. 2017/0050110	2017-02-23
WO. 07114643	2007-10-11
CN 104994432	2015-10-21
CN 105100915	2015-11-25
KR 101251963	2013-04-02

## 2. Prior Art Non-Patent Publications

Prior Art to U.S. Patent No. 10,321,206		
Title	Author(s)	Date of Publication (at least by)
A Design and Implementation of IPTV STB over EPON	Shu Zhang, Deming Liua, Jinjuan Wanga, Yuguang Chang	2007
Android Layout Tricks #3: Optimize with stubs	Romain Guy	2009-03-30
Design and Implementation of wireless STB in DTV over EPON system	Yuguang Chang, Deming Liua, Shu Zhang	2008
Digital Set Top Box (STB) - Open Architecture/Interoperability Issues	B.Sundareshan	2015
Handbook of Image & Video Processing (2 <sup>nd</sup> Ed.)	Al Bovik	2005
Handbook of Image & Video Processing (1 <sup>st</sup> Ed.)	Al Bovik	2000
IPTV STANDARD CDN Scope Service Approach Specifications IPTVFJ STD-0006 Version 1.3	IPTV Forum Japan (IPTVFJ)	2010-07-30
Optimizing for Doze and App Standby	Android Developers	2016-03-13
Optimizing Intel® Architecture Multimedia Application By Software Tuning and Hardware Acceleration	Yuming Li	2014
Sharp Aquos LC-70UD1U Operation Manual	Sharp	2013-03-01
The Brazilian Digital Television System Access Device Architecture	Eduardo Rodrigues de Carvalho, Gil Garcia de Barros, Laisa Caroline de Paula Costa, Regis Rossi	2006

### Prior Art to U.S. Patent No. 10,321,206

Title	Author(s)	Date of Publication (at least by)
	Alves Faria, Rogério Pernas Nunes, Roseli de Deus Lopes & Marcelo Knörich Zuffo	
VIZIO User Manual: Model: E320i-B2 & E400i-B2	VIZIO	2014
VIZIO User Manual: Model: E500i-B1	VIZIO	2013
VIZIO User Manual: Models: M322i-B1	VIZIO	2014
VIZIO User Manual Models: P502ui-B1E & P502ui-B1	VIZIO	2014

### 3. Prior Art Systems

### Prior Art to U.S. Patent No. 10,321,206

System/Product	Date of Public Availability (at least by)
VIZIO P502ui-B1E 50" 4K Ultra HD 120Hz Full-Array LED Smart TV	2015-02-09
VIZIO E241i-B1 24" 1080p 60Hz Razor LED Smart HDTV	2015-02-07
VIZIO E700i-B3 70" 1080p 120Hz LED Smart HDTV	2015-02-08
VIZIO M322i-B1 32" Class 1080p 120Hz Full-Array LED HDTV	2015-02-07
VIZIO E320FI-B2 32" 1080p 60Hz Full- Array LED Smart HDTV	2015-02-07
VIZIO E390i-B1E 39" 1080p 120Hz LED Smart HDTV	2015-02-10
VIZIO E231-B1 23" 720p 60Hz Razor LED HDTV	2015-02-09
VIZIO E280i-B1 28" 720p 60Hz Full-Array LED Smart HDTV	2015-02-13
VIZIO M801i-A3 80" 1080p 240Hz Razor LED Smart TV HDTV	2015-02-13

**Prior Art to U.S. Patent No. 10,321,206**

<b>System/Product</b>	<b>Date of Public Availability (at least by)</b>
VIZIO P602ui-B3 60" 4K Ultra HD 240Hz Full-Array LED Smart TV	2015-02-11
VIZIO M602i-B3 60" Class 1080p 240Hz Full-Array LED Smart HDTV	2015-02-11
VIZIO P702ui-B3 70" 4K Ultra HD 240Hz Full-Array LED Smart TV	2015-02-08
VIZIO M702i-B3 70" 1080p 240Hz Class LED Smart HDTV	2015-02-08
VIZIO E600i-B3 60" Full HD 1080p 120Hz Class LED Smart HDTV	2015-02-07
VIZIO E500I-B1 50" 1080p 120Hz Full-Array LED Smart HDTV	2015-02-07
VIZIO E400i-B2 40" 1080p 120Hz Full-Array LED Smart HDTV	2015-02-07
Samsung 60" 1080p Class LED Smart HDTV, UN60H6350AFXZA	2015-02-07
Samsung 32" 1080p 60Hz LED Smart HDTV, UN32H5203AFXZA	2015-02-07
Samsung UN48H6350AFXZA 48" 1080p Class LED Smart HDTV	2015-02-07
Samsung 65" 1080p Class LED Smart HDTV, UN65H6350AFXZA	2015-02-08
Samsung 75" 1080p Class LED Smart HDTV, UN75H6350AFXZA	2015-02-08
Samsung 50" 1080p Class LED Smart HDTV, UN50H6350AFXZA	2015-02-09
Samsung UN28H4500AFXZA 28" 720p 60Hz Slim LED Smart HDTV	2015-02-09
Samsung UN48H5500AFXZA 48" 1080p Class LED Smart HDTV	2015-02-09
Samsung UN32H6350AFXZA 32" 1080p Class LED Smart HDTV	2015-02-07
Samsung 55" 1080p 240Hz Class LED Smart HDTV, UN55H7150	2015-02-14
Samsung 60" 1080p 120Hz LED Smart HDTV, UN60H6203AFXZA	2015-02-09

**Prior Art to U.S. Patent No. 10,321,206**

<b>System/Product</b>	<b>Date of Public Availability (at least by)</b>
Samsung 65" 1080p 120Hz LED Smart HDTV, UN65H6203AFXZA	2015-02-15
Samsung UN48H5500AFXZA 48" 1080p Class LED Smart HDTV	2015-02-09
LG 47LB6300 47" 1080p 120Hz Direct LED Smart HDTV	2015-02-11
LG 50LB6300 50" 1080p 120Hz Direct LED Smart HDTV	2015-02-15
LG 55UB8500 55" 4K UHD 2160p 60Hz Smart HDTV	2015-02-12
LG 65LB6300 65" 1080p 120Hz Direct LED Smart HDTV	2015-02-12
LG 55LB6300 55" 1080p 120Hz Direct LED Smart HDTV	2015-02-10
LG 60LB6300 60" 1080p 120Hz Direct LED Smart HDTV	2015-02-10
Roku LT (2700)	2013-09
Roku 1, SE (2710)	2013-09
Roku 2 (2720)	2013-09
Roku 3 (4200)	2013-03
Roku 2 (4210)	2015-04
Roku 3 (4230)	2015-04

**B. Anticipation And Obviousness Allegations and Claim Charts<sup>3</sup>**

Exhibits B-101 – B-104 and B-201 – B-207 attached hereto contain charts for prior art that anticipates and/or renders obvious the asserted claims of the '206 Patent, and identifying where specifically in the alleged prior art each limitation of each asserted claim is found. VIZIO further incorporates by reference prior art references of record before the USPTO during prosecution of the '206 Patent and any related patents/applications or proceedings.

<sup>3</sup> The earliest possible effective filing date of the '206 Patent is March 25, 2016. Thus the AIA (or post-AIA) provisions of Title 35 apply.

1 In the absence of a claim construction order from the Court, VIZIO has relied  
2 upon the Plaintiff's apparent interpretation of the Asserted Claims of the Asserted  
3 Patents as reflected in Plaintiff's Infringement Contentions (to the extent any  
4 construction is evidenced by Plaintiff's application of the claims in such contentions).  
5 This reliance upon those apparent interpretations should not be taken to mean that  
6 VIZIO necessarily agrees with such interpretations or that VIZIO is precluded from  
7 propounding alternative claim constructions.

8 To the extent any limitation is deemed not to be met exactly by an item of prior  
9 art, VIZIO submits that the difference would have been obvious to a person of ordinary  
10 skill in the art and within the knowledge of one skilled in the art at the time of the  
11 alleged invention, so that the claimed invention would have been obvious in light of the  
12 single reference alone or combined with other references and/or the knowledge of one  
13 skilled in the art. Further, to the extent that any claim element or limitation is not  
14 expressly or inherently disclosed in a prior art reference, it would have been within the  
15 skill, knowledge, and/or understanding of one of ordinary skill in the art that the  
16 disclosures of the reference could readily be modified or adapted so as to meet the  
17 element or limitation.

18 As a general matter, all portions of each prior art reference are relied upon to  
19 support the disclosure of each patent claim limitation, as all portions provide general  
20 support. Supporting citations are nevertheless provided, but do not necessarily represent  
21 every location where a particular claim term may be found in the prior art reference.  
22 VIZIO reserves the right to rely on additional, or different, portions of the prior art  
23 references other than those specifically cited in the claims chart provided herewith.  
24 VIZIO reserves the right to supplement and/or amend these contentions based on the  
25 above-identified prior art considered individually or in combination with additional  
26 information learned during discovery and/or the Court's claim construction ruling. In  
27 addition, VIZIO may become aware of additional references as discovery progresses,  
28

1 and VIZIO reserves the right to use such references to demonstrate that the asserted  
2 claims of the asserted patents are invalid as anticipated or obvious.

### 3 **1. Anticipation and Obviousness**

4 The elements of the prior art references in Exhibits B-101 – B-104 that  
5 correspond to the claim limitations as shown in the charts can also be combined for the  
6 purpose of demonstrating anticipation, including through inherency, under 35 U.S.C. §  
7 102 and/or rendering the claims obvious under 35 U.S.C. § 103. Accordingly, each of  
8 these prior art references can be combined with each other to render the asserted claims  
9 of the '206 Patent anticipated, including through inherency, or obvious.

### 10 **2. Prior Art Combinations**

11 To the extent not anticipated, VIZIO submits that it would have been obvious, and  
12 within the skill and motivations of a person of ordinary skill in the art, to combine  
13 features of the disclosures of the attached references and/or the person's knowledge  
14 with the disclosures of other references lacking explicit disclosures of the features of  
15 any asserted claims, such that the subject matter of the asserted claims, as a whole,  
16 would have been obvious to one of ordinary skill in the art. To the extent it is argued  
17 that the foregoing references do not disclose a teaching, suggestion, and/or motivation  
18 to combine prior art references, the combination would have been obvious to a person of  
19 ordinary skill in the art at least because it would have no unexpected results, would  
20 simply represent a known alternative, would have been a simple and obvious  
21 substitution of one known element for another, and/or would have been the mere  
22 obvious application of a known technique to a piece of prior art ready for the  
23 improvement. *See KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1739-40 (2007)  
24 (rejecting a "rigid" application of the teaching, suggestion, or motivation to combine  
25 test, instead espousing an "expansive and flexible" approach).

26 The invalidity charts in Exhibit B-201 – B-209 show exemplary combinations of  
27 references that render the asserted claims obvious. In addition, each prior art reference  
28 charted in Exhibits B-101 – B-104 can each be combined with other prior art identified



1 above and/or the knowledge of a person of ordinary skill in the art to render the claims  
2 of the '206 Patent obvious. Individual prior art references in the tables above can be  
3 combined with each other to render the claims obvious. Further, to the extent that any  
4 claim element or limitation is not expressly or inherently disclosed in a prior art  
5 reference, it would have been within the skill, knowledge, and/or understanding of one  
6 of ordinary skill in the art that the disclosures of the reference could readily be modified  
7 or adapted so as to meet the element or limitation.

8 As shown in the attached claim charts, to the extent that a prior art reference may  
9 not fully disclose an element of an asserted claim or is alleged to lack disclosure of a  
10 particular claim element, such claim element is present and identified in another prior  
11 art reference. It would have been obvious to combine the disclosed claim elements  
12 based on the teachings of other art in existence at that time, the general knowledge of a  
13 person of ordinary skill in the art, and the recognition of similarities between the art and  
14 the claimed features. On an element-by-element basis, therefore, VIZIO intends to  
15 combine one or more prior art references cited herein if Plaintiff contends that a  
16 particular prior art reference lacks one or more elements of an asserted claim. In other  
17 words, VIZIO submits that each charted prior art reference can be combined with other  
18 charted prior art references if a particular prior art reference lacks or does not explicitly  
19 disclose an element or feature of an asserted claim.

20 In this manner, any element of an asserted claim can easily be identified by cross-  
21 reference to the same particular claim element in other charted prior art reference to  
22 show that the element was known in the prior art, an inherent feature of an element not  
23 otherwise fully disclosed, and/or an obvious addition or modification to the disclosed  
24 claim elements. Furthermore, identifying supporting disclosures between corresponding  
25 elements in this manner improves the brevity and clarity of the claim charts, while  
26 providing Plaintiff with notice of VIZIO's intent to rely upon the charted elements of  
27 each claim chart in Exhibit B-101 – B-103 and B-201 – B-209 to show inherency or  
28 obviousness.

1 Any obviousness combinations, including those reflected in the attached  
2 invalidity charts, are in the alternative to VIZIO's anticipation contentions and are not to  
3 be construed to suggest that any reference is not anticipatory. In particular, VIZIO is  
4 currently unaware of the extent, if any, to which Plaintiff will contend that the  
5 limitations of the claims at issue are not disclosed in the art identified by VIZIO as  
6 anticipatory. To the extent that an issue arises with respect to any such limitation, VIZIO  
7 reserves the right to identify other references and combinations, which may make  
8 obvious the addition of the allegedly missing limitation to the disclosed device, method,  
9 system, or any related characteristics.

10 In addition, common knowledge of those of ordinary skill in the art can be prior  
11 art and may be relied on by VIZIO by way of testimony or declarations in combination  
12 with the above prior art publications and patents. This includes knowledge of well-  
13 known technology and various industry standards and protocols.

14 Notably, all of the following recognized rationales support a finding of  
15 obviousness:

16 Combining prior art elements according to known methods to yield predictable  
17 results;

18 Simple substitution of one known element for another to obtain predictable  
19 results;

20 Use of known technique to improve similar devices (methods, or products) in the  
21 same way;

22 Applying a known technique to a known device (method, or product) ready for  
23 improvement to yield predictable results;

24 "Obvious to try"—choosing from a finite number of identified, predictable  
25 solutions, with a reasonable expectation of success;

26 Known work in one field of endeavor may prompt variations of it for use in either  
27 the same field or a different one based on design incentives or other market forces if the  
28 variations would have been predictable to one of ordinary skill in the art; and

1 Some teaching, suggestion, or motivation in the prior art that would have led one  
2 of ordinary skill to modify the prior art reference or to combine prior art reference  
3 teachings to arrive at the claimed invention.

4 A person of ordinary skill in the art would have been motivated to combine the  
5 above references, as each reference relates to methods for switching between  
6 applications. As the prior art relates to a similar field of art, it would have been obvious  
7 to one skilled in the art to combine the related technologies. Accordingly, one of  
8 ordinary skill in the art would have recognized that the results of the combinations were  
9 predictable, and would have been clearly motivated to modify and combine the prior art  
10 references identified above to arrive at the alleged inventions of claims of the asserted  
11 patents.

12 Each of the separate elements of the asserted claims of the '206 Patent was well  
13 known to those of ordinary skill in the art before the date of invention, as demonstrated  
14 in the prior art listed above. Further, the elements recited in the asserted claims of the  
15 '206 Patent are simply combinations and modifications of these well-known elements.  
16 A person of ordinary skill in the art would have been able, and motivated, to improve  
17 the existing technology in the same or similar manner by combining or modifying the  
18 individual elements that were already known in the art to yield predictable results.

## 19 **C. Grounds of Invalidity under 35 U.S.C. § 101 or § 112**

### 20 **1. Invalidity Under §112**

21 Because the present litigation is in its early stages, VIZIO has yet to fully determine  
22 all claim terms that may lack an enabling disclosure or written description or that fail to  
23 meet the “definiteness” requirement of 35 U.S.C. § 112. VIZIO reserves the right to  
24 supplement its Invalidity Contentions to identify those terms that fail under 35 U.S.C. §  
25 112.

26 Nevertheless, subject to claim construction, VIZIO identifies the following  
27 exemplary claim terms as lacking an enabling disclosure or written description under  
28 35 U.S.C. § 112:

- *“A method for switching an audio/video (AV) application”;*
- *“receiving an instruction for switching to a target AV application”;*
- *“starting a preset intermediate interface and setting an AV application currently in use to be a background program, wherein a resource occupied by the intermediate interface is less than a resource occupied by the target AV application”;*
- *“triggering, in response to the intermediate interface has been completely loaded, the AV application, which has been set to be the background program, to release an AV decoder”;*
- *“instructing the target AV application to send a playback instruction to the AV decoder if the AV decoder is in an unoccupied state”;*
- *“the resource occupied by the intermediate interface being less than the resource occupied by the target AV application comprises”;*
- *“the intermediate interface does not utilize the AV decoder, and/or the intermediate interface contains less interface content than the target AV application”;*
- *“the instructing the target AV application to send a playback instruction to the AV decoder if the AV decoder is in an unoccupied state”;*
- *“if the AV decoder is in an unoccupied state, starting a playback interface of the target AV application, and instructing the target AV application to send the playback instruction to the AV decoder”;*
- *“before the instructing the target AV application to send a playback instruction to the AV decoder if the AV decoder is in an unoccupied state”;*
- *“starting a playback interface of the target AV application”;*
- *“the intermediate interface is a blank interface”;*
- *“the instructing the target AV application to send a playback instruction to the AV decoder if the AV decoder is in an unoccupied state”;*
- *“querying for a state of the AV decoder”;*

- 1 • “instructing the target AV application to send the playback instruction to
- 2 the AV decoder if the AV decoder is in an unoccupied state”;
- 3 • “after the receiving an instruction for switching to a target AV
- 4 application”;
- 5 • “starting an animation playback window, wherein a window layer of the
- 6 animation playback window is above a window layer of an AV
- 7 application”;
- 8 • “playing an application switching animation in the animation playback
- 9 window”;
- 10 • “An apparatus for switching an audio/video (AV) application”;
- 11 • “a memory, a communication port and a processor, wherein the memory
- 12 stores instructions, the processor is coupled with the memory and
- 13 configured to execute the instructions stored in the memory”;
- 14 • “receive an instruction for switching to a target AV application via the
- 15 communication port”;
- 16 • “start a preset intermediate interface and set a AV application currently in
- 17 use to be a background program, wherein a resource occupied by the
- 18 intermediate interface is less than a resource occupied by the target AV
- 19 application”;
- 20 • “in response to the intermediate interface has been completely loaded,
- 21 trigger the AV application, which has been set to be a background
- 22 program, to release an AV decoder”;
- 23 • “instruct the target AV application to send a playback instruction to the AV
- 24 decoder if the AV decoder is in an unoccupied state”;
- 25 • “the intermediate interface does not utilize the AV decoder, and/or the
- 26 intermediate interface contains less interface content than the target AV
- 27 application”;
- 28 • “if the AV decoder is in an unoccupied state, start a playback interface of
- the target AV application, and instruct the target AV application to send the
- playback instruction to the AV decoder”;
- “start a playback interface of the target AV application”;

- “query for a state of the AV decoder”;
- “if the AV decoder is in an unoccupied state, instruct the target AV application to send the playback instruction to the AV decoder”;
- “start an animation playback window after the instruction for switching to a target AV application is received, wherein a window layer of the animation playback window is above a window layer of an AV application”;
- “play an application switching animation in the animation playback window”; and
- “A smart TV, comprising the apparatus for switching an AV application”.

Subject to claim construction, VIZIO identifies the following exemplary claims terms as failing to meet the “definiteness” requirement of 35 U.S.C. § 112:

- “receiving an instruction for switching to a target AV application”;
- “starting a preset intermediate interface and setting an AV application currently in use to be a background program, wherein a resource occupied by the intermediate interface is less than a resource occupied by the target AV application”;
- “triggering, in response to the intermediate interface has been completely loaded, the AV application, which has been set to be the background program, to release an AV decoder”;
- “instructing the target AV application to send a playback instruction to the AV decoder if the AV decoder is in an unoccupied state”;
- “the resource occupied by the intermediate interface being less than the resource occupied by the target AV application comprises”;
- “the intermediate interface does not utilize the AV decoder, and/or the intermediate interface contains less interface content than the target AV application”;
- “the instructing the target AV application to send a playback instruction to the AV decoder if the AV decoder is in an unoccupied state”;

- “if the AV decoder is in an unoccupied state, starting a playback interface of the target AV application, and instructing the target AV application to send the playback instruction to the AV decoder”;
- “before the instructing the target AV application to send a playback instruction to the AV decoder if the AV decoder is in an unoccupied state”;
- “starting a playback interface of the target AV application”;
- “the intermediate interface is a blank interface”;
- “the instructing the target AV application to send a playback instruction to the AV decoder if the AV decoder is in an unoccupied state”;
- “querying for a state of the AV decoder”;
- “instructing the target AV application to send the playback instruction to the AV decoder if the AV decoder is in an unoccupied state”;
- “after the receiving an instruction for switching to a target AV application”;
- “starting an animation playback window, wherein a window layer of the animation playback window is above a window layer of an AV application”;
- “playing an application switching animation in the animation playback window”;
- “a memory, a communication port and a processor, wherein the memory stores instructions, the processor is coupled with the memory and configured to execute the instructions stored in the memory”;
- “receive an instruction for switching to a target AV application via the communication port”;
- “start a preset intermediate interface and set a AV application currently in use to be a background program, wherein a resource occupied by the intermediate interface is less than a resource occupied by the target AV application”;

- “in response to the intermediate interface has been completely loaded, trigger the AV application, which has been set to be a background program, to release an AV decoder”;
- “instruct the target AV application to send a playback instruction to the AV decoder if the AV decoder is in an unoccupied state”;
- “the intermediate interface does not utilize the AV decoder, and/or the intermediate interface contains less interface content than the target AV application”;
- “if the AV decoder is in an unoccupied state, start a playback interface of the target AV application, and instruct the target AV application to send the playback instruction to the AV decoder”;
- “start a playback interface of the target AV application”;
- “query for a state of the AV decoder”;
- “if the AV decoder is in an unoccupied state, instruct the target AV application to send the playback instruction to the AV decoder”;
- “start an animation playback window after the instruction for switching to a target AV application is received, wherein a window layer of the animation playback window is above a window layer of an AV application”;
- “play an application switching animation in the animation playback window”; and
- “A smart TV, comprising the apparatus for switching an AV application”.

## **2. Invalidity Under §101**

In addition, the claims are patent ineligible under 35 U.S.C. § 101 because they are directed to the abstract idea of displaying an intermediate interface when switching between two applications on a television, fail to provide an inventive concept, and require no improved components or hardware.



IV. U.S. PATENT NO. 7,986,858

A. Identification of Prior Art

1. Prior Art Patents and Patent Applications

Prior Art to U.S. Patent No. 7,986,858	
Patent / Published Application No.	Date of Issue or Publication
U.S. Patent No. 5,696,848	1997-12-09
U.S. Patent No. 6,285,804	2001-09-04
U.S. Patent No. 6,658,618	2003-12-02
U.S. Patent No. 6,795,498	2004-09-21
U.S. Patent No. 7,085,323	2006-08-01
U.S. Patent No. 7,181,086	2007-02-20
U.S. Patent No. 7,257,275	2007-08-14
U.S. Patent No. 7,551,805	2009-06-23
U.S. Patent No. 7,656,950	2010-02-02
U.S. Patent No. 7,664,335	2010-02-16
U.S. Patent No. 7,702,184	2010-04-20
U.S. Patent No. 7,764,848	2010-07-27
U.S. Patent No. 7,840,095	2010-11-23
U.S. Patent No. 7,899,273	2011-03-01
U.S. Patent No. 8,009,933	2011-08-30
U.S. Patent No. 8,014,632	2011-09-06
U.S. Patent No. 8,213,746	2012-07-03
U.S. Patent No. 8,264,600	2012-9-11
U.S. Patent No. 8,467,459	2013-06-18
U.S. Patent No. 8,502,916	2013-08-06
U.S. Patent No. 8,515,202	2013-08-20
U.S. Patent App. Pub. No. 2005/0019000	2005-01-27
U.S. Patent App. Pub. No. 2006/0012830	2006-01-19
U.S. Patent App. Pub. No. 2006/0050783	2006-03-09
U.S. Patent App. Pub. No. 2007/0041664	2007-02-22
U.S. Patent App. Pub. No. 2007/0222864	2007-09-27
U.S. Patent App. Pub. No. 2007/0286283	2007-12-13
U.S. Patent App. Pub. No. 2008/0165848	2008-07-10
U.S. Patent App. Pub. No. 2008/0175519	2008-07-24
U.S. Patent App. Pub. No. 2008/0309831	2008-12-18
U.S. Patent App. Pub. No. 2009/0080805	2009-03-26
U.S. Patent App. Pub. No. 2009/0237549	2009-09-24
U.S. Patent App. Pub. No. 2009/0279609	2009-11-12

**Prior Art to U.S. Patent No. 7,986,858**

<b>Patent / Published Application No.</b>	<b>Date of Issue or Publication</b>
JP4686388	2011-05-25
JP4714038	2011-06-29
JP2004120603	2004-04-15
JP2005129996	2005-05-19
JP2006039628	2006-02-09
JP2006041604	2006-02-09
WO 2005/072060	2005-08-11
WO 2006/046493	2006-05-04
WO 2007/061208	2007-05-31

**2. Prior Art Non-Patent Publications**

**Prior Art to U.S. Patent No. 7,986,858**

<b>Title</b>	<b>Author(s)</b>	<b>Date of Publication (at least by)</b>
Video compression with parallel processes	Ishfaq Ahmad; Yong He; Ming L. Liou	2002
Real-Time Super-Resolution over Raw Video Sequences	D. Barreto; G.M. Callicó, S. López, L. García; and A. Núñez	2005
Image Sequence Processing	Sean Borman; Robert Stevenson	October 14, 2002
A Survey of Image Registration Techniques	Lisa Gottesfeld Brown	December 1992
Mapping of Real-Time and Low-Cost Super-Resolution Algorithms onto a Hybrid Video Encoder	Gustavo Marrero Callicó; Rafael Peset Llopis; Antonio Núñez; Ramanathan Sethuraman	2003
Nonlinear Algorithms for Image Resolution Enhancement and Image Compression	Li Hong	December 2001
Improving Resolution by Image Registration	Michal Irani and Shmuel Peleg	1991
Handbook of Image & Video Processing (2 <sup>nd</sup> Ed.)	Al Bovik	2005
Handbook of Image & Video Processing (1 <sup>st</sup> Ed.)	Al Bovik	2000

**Prior Art to U.S. Patent No. 7,986,858**

<b>Title</b>	<b>Author(s)</b>	<b>Date of Publication (at least by)</b>
Spatial Resolution Enhancement of Low-Resolution Image Sequences A Comprehensive Review with Directions for Future Research	Sean Borman, Robert Stevenson	1998-07-08
Selective Bayesian Estimation for Efficient Super-Resolution	Zoran A. Ivanoski, Lina J. Karam; Glen P. Abousleman	2004
Recursive Reconstruction of High Resolution Image from Noisy Undersampled Multiframe	S.P. Kim; N.K. Bose; H.M. Valenzuela	June 1990
Superresolution-Based Enhancement of Text in Digital Video	Huiping Li and David Doermann	2000
Motion Analysis for Image Enhancement: Resolution, Occlusion, and Transparency	Michal Irani; Shmuel Peleg	1993
Super-Resolution Image Reconstruction: A Technical Overview	Sung Cheol Park; Min Kyu Park; and Moon Gi Kang	May 2003
Superresolution Video Reconstruction with Arbitrary Sampling Lattices and Nonzero Aperture Time	Andrew J. Patti; M. Ibrahim Sezan; A. Murat Tekalp	August 1997
Extraction of High-Resolution Frames from Video Sequences	Richard R. Schultz; Robert L. Stevenson	June 1996
Resolution Enhancement of Color Video Sequences	Nimish R. Shah and Avideh Zakhor	1999
Sub-Pixel Estimation Error Cancellation on Area-Based Matching	Masao Shimizu and Masatoshi Okutomi	2005

**Prior Art to U.S. Patent No. 7,986,858**

<b>Title</b>	<b>Author(s)</b>	<b>Date of Publication (at least by)</b>
Parallel and Distributed Algorithms for High-Speed Image Processing	Robert L. Stevenson; Andrew Lumsdaine; Jeffrey M. Squires; and Michael P. McNally	April 2000
Multiframe Integration for High-Resolution Video Stills	Robert L. Stevenson	August 1995
High-Resolution Image Reconstruction from Lower-Resolution Image Sequences and Space-Varying Image Restoration	A. Murat Tekalp; Mehmet K. Ozkan; and M. Ibrahim Sezan	April 1992
Algorithms for Subpixels Registration	Qi Tian and Michael N. Huhns	1986
Efficient super-resolution and applications to mosaics	Shmuel Peleg	February 2000

**B. Anticipation And Obviousness Allegations and Claim Charts<sup>4</sup>**

Exhibits C-101 – C-111 and C-201 – C-223 attached hereto contain charts for prior art that anticipates and/or renders obvious the asserted claims of the '858 Patent, and identifying where specifically in the alleged prior art each limitation of each asserted claim is found. VIZIO further incorporates by reference prior art references of record before the USPTO during prosecution of the '858 Patent and any related patents/applications or proceedings.

In the absence of a claim construction order from the Court, VIZIO has relied upon the Plaintiff's apparent interpretation of the Asserted Claims of the Asserted Patents as reflected in Plaintiff's Infringement Contentions (to the extent any construction is evidenced by Plaintiff's application of the claims in such contentions).

<sup>4</sup> The earliest possible effective filing date of the '858 Patent is April 26, 2007. Thus the pre-AIA provisions of Title 35 apply.

1 This reliance upon those apparent interpretations should not be taken to mean that  
2 VIZIO necessarily agrees with such interpretations or that VIZIO is precluded from  
3 propounding alternative claim constructions.

4 To the extent any limitation is deemed not to be met exactly by an item of prior  
5 art, VIZIO submits that the difference would have been obvious to a person of ordinary  
6 skill in the art and within the knowledge of one skilled in the art at the time of the  
7 alleged invention, so that the claimed invention would have been obvious in light of the  
8 single reference alone or combined with other references and/or the knowledge of one  
9 skilled in the art. Further, to the extent that any claim element or limitation is not  
10 expressly or inherently disclosed in a prior art reference, it would have been within the  
11 skill, knowledge, and/or understanding of one of ordinary skill in the art that the  
12 disclosures of the reference could readily be modified or adapted so as to meet the  
13 element or limitation.

14 As a general matter, all portions of each prior art reference are relied upon to  
15 support the disclosure of each patent claim limitation, as all portions provide general  
16 support. Supporting citations are nevertheless provided, but do not necessarily represent  
17 every location where a particular claim term may be found in the prior art reference.  
18 VIZIO reserves the right to rely on additional, or different, portions of the prior art  
19 references other than those specifically cited in the claims chart provided herewith.  
20 VIZIO reserves the right to supplement and/or amend these contentions based on the  
21 above-identified prior art considered individually or in combination with additional  
22 information learned during discovery and/or the Court's claim construction ruling. In  
23 addition, VIZIO may become aware of additional references as discovery progresses,  
24 and VIZIO reserves the right to use such references to demonstrate that the asserted  
25 claims of the asserted patents are invalid as anticipated or obvious.

### 26 **1. Anticipation and Obviousness**

27 The elements of the prior art references in Exhibits C-101 – C-111 that  
28 correspond to the claim limitations as shown in the charts can also be combined for the

purpose of demonstrating anticipation, including through inherency, under 35 U.S.C. § 102 and/or rendering the claims obvious under 35 U.S.C. § 103. Accordingly, each of these prior art references can be combined with each other to render the asserted claims of the '858 Patent anticipated, including through inherency, or obvious.

## **2. Prior Art Combinations**

To the extent not anticipated, VIZIO submits that it would have been obvious, and within the skill and motivations of a person of ordinary skill in the art, to combine features of the disclosures of the attached references and/or the person's knowledge with the disclosures of other references lacking explicit disclosures of the features of any asserted claims, such that the subject matter of the asserted claims, as a whole, would have been obvious to one of ordinary skill in the art. To the extent it is argued that the foregoing references do not disclose a teaching, suggestion, and/or motivation to combine prior art references, the combination would have been obvious to a person of ordinary skill in the art at least because it would have no unexpected results, would simply represent a known alternative, would have been a simple and obvious substitution of one known element for another, and/or would have been the mere obvious application of a known technique to a piece of prior art ready for the improvement. *See KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1739-40 (2007) (rejecting a "rigid" application of the teaching, suggestion, or motivation to combine test, instead espousing an "expansive and flexible" approach).

The invalidity charts in Exhibits C-201 – C-223 show exemplary combinations of references that render the asserted claims obvious. In addition, each prior art reference charted in Exhibits C-101 – C-111 can each be combined with other prior art identified above and/or the knowledge of a person of ordinary skill in the art to render the claims of the '858 Patent obvious. Individual prior art references in the tables above can be combined with each other to render the claims obvious. Further, to the extent that any claim element or limitation is not expressly or inherently disclosed in a prior art reference, it would have been within the skill, knowledge, and/or understanding on one

1 of ordinary skill in the art that the disclosures of the reference could readily be modified  
2 or adapted so as to meet the element or limitation.

3 As shown in the attached claim charts, to the extent that a prior art reference may  
4 not fully disclose an element of an asserted claim or is alleged to lack disclosure of a  
5 particular claim element, such claim element is present and identified in another prior  
6 art reference. It would have been obvious to combine the disclosed claim elements  
7 based on the teachings of other art in existence at that time, the general knowledge of a  
8 person of ordinary skill in the art, and the recognition of similarities between the art and  
9 the claimed features. On an element-by-element basis, therefore, VIZIO intends to  
10 combine one or more prior art references cited herein if Plaintiff contends that a  
11 particular prior art reference lacks one or more elements of an asserted claim. In other  
12 words, VIZIO submits that each charted prior art reference can be combined with other  
13 charted prior art references if a particular prior art reference lacks or does not explicitly  
14 disclose an element or feature of an asserted claim.

15 In this manner, any element of an asserted claim can easily be identified by cross-  
16 reference to the same particular claim element in other charted prior art reference to  
17 show that the element was known in the prior art, an inherent feature of an element not  
18 otherwise fully disclosed, and/or an obvious addition or modification to the disclosed  
19 claim elements. Furthermore, identifying supporting disclosures between corresponding  
20 elements in this manner improves the brevity and clarity of the claim charts, while  
21 providing Plaintiff with notice of VIZIO's intent to rely upon the charted elements of  
22 each claim chart in Exhibits C-101 – C-111 and C-201 – C-223 to show inherency or  
23 obviousness.

24 Any obviousness combinations, including those reflected in the attached  
25 invalidity charts, are in the alternative to VIZIO's anticipation contentions and are not to  
26 be construed to suggest that any reference is not anticipatory. In particular, VIZIO is  
27 currently unaware of the extent, if any, to which Plaintiff will contend that the  
28 limitations of the claims at issue are not disclosed in the art identified by VIZIO as

1 anticipatory. To the extent that an issue arises with respect to any such limitation, VIZIO  
2 reserves the right to identify other references and combinations, which may make  
3 obvious the addition of the allegedly missing limitation to the disclosed device, method,  
4 system, or any related characteristics.

5 In addition, common knowledge of those of ordinary skill in the art can be prior  
6 art and may be relied on by VIZIO by way of testimony or declarations in combination  
7 with the above prior art publications and patents. This includes knowledge of well-  
8 known technology and various industry standards and protocols.

9 Notably, all of the following recognized rationales support a finding of  
10 obviousness:

11 Combining prior art elements according to known methods to yield predictable  
12 results;

13 Simple substitution of one known element for another to obtain predictable  
14 results;

15 Use of known technique to improve similar devices (methods, or products) in the  
16 same way;

17 Applying a known technique to a known device (method, or product) ready for  
18 improvement to yield predictable results;

19 “Obvious to try”—choosing from a finite number of identified, predictable  
20 solutions, with a reasonable expectation of success;

21 Known work in one field of endeavor may prompt variations of it for use in either  
22 the same field or a different one based on design incentives or other market forces if the  
23 variations would have been predictable to one of ordinary skill in the art; and

24 Some teaching, suggestion, or motivation in the prior art that would have led one  
25 of ordinary skill to modify the prior art reference or to combine prior art reference  
26 teachings to arrive at the claimed invention.

27 A person of ordinary skill in the art would have been motivated to combine the  
28 above references, as each reference relates to image processing, including generating



1 super-resolution images. As the prior art relates to a similar field of art, it would have  
2 been obvious to one skilled in the art to combine the related technologies. Accordingly,  
3 one of ordinary skill in the art would have recognized that the results of the  
4 combinations were predictable, and would have been clearly motivated to modify and  
5 combine the prior art references identified above to arrive at the alleged inventions of  
6 claims of the asserted patents.

7 Each of the separate elements of the asserted claims of the '858 Patent was well  
8 known to those of ordinary skill in the art before the date of invention, as demonstrated  
9 in the prior art listed above. Further, the elements recited in the asserted claims of the  
10 '858 Patent are simply combinations and modifications of these well-known elements.  
11 A person of ordinary skill in the art would have been able, and motivated, to improve  
12 the existing technology in the same or similar manner by combining or modifying the  
13 individual elements that were already known in the art to yield predictable results.

## 14 **C. Grounds of Invalidity under 35 U.S.C. § 101 or § 112**

### 15 **1. Invalidity Under §112**

16 Because the present litigation is in its early stages, VIZIO has yet to fully determine  
17 all claim terms that may lack an enabling disclosure or written description or that fail to  
18 meet the “definiteness” requirement of 35 U.S.C. § 112. VIZIO reserves the right to  
19 supplement its Invalidity Contentions to identify those terms that fail under 35 U.S.C. §  
20 112.

21 Nevertheless, subject to claim construction, VIZIO identifies the following  
22 exemplary claim terms as lacking an enabling disclosure or written description under  
23 35 U.S.C. § 112:

- 24 • *“a correction amount calculation unit configured to calculate correction*  
25 *amounts of the first luminance data for the corresponding positions based*  
26 *on the first luminance data, third luminance data of the target pixels, and*  
27 *the corresponding positions, the correction amounts being parallelly*  
28 *calculated for the respective corresponding positions”*

- “parallelly calculating correction amounts of the first luminance data for the corresponding positions based on the first luminance data, third luminance data of the target pixels, and the corresponding positions”
- “an addition unit configured to calculate sum of correction amounts from the correction amounts”
- “calculating sum of correction amounts from the correction amounts”
- “a luminance data correction unit configured to correct the first luminance data based on the sum of the correction amounts”
- “correcting the first luminance data based on the sum of the correction amounts”

Subject to claim construction, VIZIO identifies the following exemplary claims terms as failing to meet the “definiteness” requirement of 35 U.S.C. § 112:

- “a luminance data calculation unit configured to set a reference frame from a video image which has a plurality of pixels, and to calculate first luminance data for a high resolution video image, the high resolution video image obtained by interpolating supplementary luminance data into the reference frame having second luminance data”
- “a position calculation unit configured to set target pixels in at least one of frames included in the video image except the reference frame, and to calculate corresponding positions to the target pixels in the reference frame with decimal accuracy”
- “setting target pixels in at least one of frames included in the video image except the reference frame”
- “calculating corresponding positions to the target pixels in the reference frame with decimal accuracy”
- “a correction amount calculation unit configured to calculate correction amounts of the first luminance data for the corresponding positions based on the first luminance data, third luminance data of the target pixels, and

the corresponding positions, the correction amounts being parallelly calculated for the respective corresponding positions”

- “parallelly calculating correction amounts of the first luminance data for the corresponding positions based on the first luminance data, third luminance data of the target pixels, and the corresponding positions”
- “an addition unit configured to calculate sum of correction amounts from the correction amounts”
- “calculating sum of correction amounts from the correction amounts”
- “a luminance data correction unit configured to correct the first luminance data based on the sum of the correction amounts”
- “correcting the first luminance data based on the sum of the correction amounts”
- “the luminance data calculation unit selects an image data as the reference frame”
- “the step of calculating the first luminance data includes selecting an image data as the reference frame”

## **2. Invalidity Under §101**

In addition, the claims are patent ineligible under 35 U.S.C. § 101 because they are directed to the abstract idea of performing conventional super resolution algorithms and/or mathematics in parallel, fail to provide an inventive concept, and require no improved components or hardware.

## **V. U.S. PATENT NO. 7,730,507**

### **A. Identification of Prior Art**

#### **1. Prior Art Patents and Patent Applications**

<b>Prior Art to U.S. Patent No. 7,730,507</b>	
<b>Patent / Published Application No.</b>	<b>Date of Issue or Publication</b>
U.S. Patent No. 5,278,654	1994-01-11
U.S. Patent No. 5,808,693	1998-09-15
U.S. Patent No. 5,838,383	1999-11-17

**Prior Art to U.S. Patent No. 7,730,507**

<b>Patent / Published Application No.</b>	<b>Date of Issue or Publication</b>
U.S. Patent No. 5,990,958	1999-11-23
U.S. Patent No. 6,115,033	2000-09-05
U.S. Patent No. 6,209,044	2001-03-27
U.S. Patent No. 6,252,907	2001-06-26
U.S. Patent No. 6,404,423	2002-06-11
U.S. Patent No. 6,414,864	2002-07-02
U.S. Patent No. 6,462,437	2002-10-08
U.S. Patent No. 6,496,390	2002-12-17
U.S. Patent No. 6,504,534	2003-01-07
U.S. Patent No. 6,636,026	2003-10-21
U.S. Patent No. 6,768,520	2004-07-27
U.S. Patent No. 6,788,352	2004-09-07
U.S. Patent No. 7,050,049	2006-05-23
U.S. Patent No. 7,068,732	2006-06-27
U.S. Patent No. 7,275,167	2007-09-25
U.S. Patent No. 7,334,132	2008-02-19
U.S. Patent No. 7,411,631	2008-08-12
U.S. Patent No. 7,437,578	2008-10-14
U.S. Patent No. 7,454,635	2008-11-18
U.S. Patent No. 7,461,280	2008-12-02
U.S. Patent No. 7,558,977	2009-07-07
U.S. Patent No. 7,725,749	2010-05-25
U.S. Patent No. 7,865,922	2011-01-04
U.S. Patent No. 7,884,883	2011-02-08
U.S. Patent No. 7,884,885	2011-02-08
U.S. Patent No. 7,971,085	2011-06-11
U.S. Patent No. 8,004,616	2011-08-23
U.S. Patent No. 8,026,982	2011-09-27
U.S. Patent No. 8,115,875	2012-02-14
U.S. Patent No. 8,583,951	2013-11-12
U.S. Patent App. Pub. No. 2001/0013856	2001-08-16
U.S. Patent App. Pub. No. 2002/0024616	2002-02-28
U.S. Patent App. Pub. No. 2003/0014675	2003-01-16
U.S. Patent App. Pub. No. 2005/0094036	2005-05-05
U.S. Patent App. Pub. No. 2005/0219423	2005-10-06
U.S. Patent App. Pub. No. 2005/0223404	2005-10-06
U.S. Patent App. Pub. No. 2005/0229226	2005-10-13

**Prior Art to U.S. Patent No. 7,730,507**

<b>Patent / Published Application No.</b>	<b>Date of Issue or Publication</b>
U.S. Patent App. Pub. No. 2006/0066757	2006-03-30
U.S. Patent App. Pub. No. 2006/0092153	2006-05-04
U.S. Patent App. Pub. No. 2007/0013816	2007-01-18
U.S. Patent App. Pub. No. 2007/0046833	2007-03-01
U.S. Patent App. Pub. No. 2007/0139569	2007-06-21
U.S. Patent App. Pub. No. 2007/0159559	2007-07-12
U.S. Patent App. Pub. No. 2007/0268403	2007-11-22
U.S. Patent App. Pub. No. 20090041438	2009-02-12
CN 1599452	2005-03-23
JP2007124210	2007-05-17
JP2007150978	2007-06-14
KR100768951	2007-10-19
KR20050063531	2005-06-28
TW200623895	2006-07-01

**2. Prior Art Non-Patent Publications**

**Prior Art to U.S. Patent No. 7,730,507**

<b>Title</b>	<b>Author(s)</b>	<b>Date of Publication (at least by)</b>
A Video Display Processing Platform for Future TV Concepts	Peter H. N. de With; Egbert G. T. Jaspers; Jef L. van Meerborgen; Adwin H. Timmer; and Marino T. J. Strick	November 1999
Chip-Set for Video Display of Multimedia Information	Egbert G. T. Jaspers and Peter H. N de With	August 1999
TCP: A Next Generation for TV Control Processing	Ole Steinfatt; Peter Klapproth; and Hans Tichelear	1999
Handbook of Image & Video Processing (2 <sup>nd</sup> Ed.)	Al Bovik	2005
Handbook of Image & Video Processing (1 <sup>st</sup> Ed.)	Al Bovik	2000

1           **B.     Anticipation And Obviousness Allegations and Claim Charts<sup>5</sup>**

2           Exhibits D-101 – D-108 and D-201 – D-227 attached hereto contain charts for  
3 prior art that anticipates and/or renders obvious the asserted claims of the '507 Patent,  
4 and identifying where specifically in the alleged prior art each limitation of each  
5 asserted claim is found. VIZIO further incorporates by reference prior art references of  
6 record before the USPTO during prosecution of the '507 Patent and any related  
7 patents/applications or proceedings.

8           In the absence of a claim construction order from the Court, VIZIO has relied  
9 upon the Plaintiff's apparent interpretation of the Asserted Claims of the Asserted  
10 Patents as reflected in Plaintiff's Infringement Contentions (to the extent any  
11 construction is evidenced by Plaintiff's application of the claims in such contentions).  
12 This reliance upon those apparent interpretations should not be taken to mean that  
13 VIZIO necessarily agrees with such interpretations or that VIZIO is precluded from  
14 propounding alternative claim constructions.

15           To the extent any limitation is deemed not to be met exactly by an item of prior  
16 art, VIZIO submits that the difference would have been obvious to a person of ordinary  
17 skill in the art and within the knowledge of one skilled in the art at the time of the  
18 alleged invention, so that the claimed invention would have been obvious in light of the  
19 single reference alone or combined with other references and/or the knowledge of one  
20 skilled in the art. Further, to the extent that any claim element or limitation is not  
21 expressly or inherently disclosed in a prior art reference, it would have been within the  
22 skill, knowledge, and/or understanding of one of ordinary skill in the art that the  
23 disclosures of the reference could readily be modified or adapted so as to meet the  
24 element or limitation.

25           As a general matter, all portions of each prior art reference are relied upon to  
26 support the disclosure of each patent claim limitation, as all portions provide general

27 \_\_\_\_\_  
28           <sup>5</sup> The earliest possible effective filing date of the '507 Patent is August 25, 2007.  
Thus the pre-AIA provisions of Title 35 apply.

support. Supporting citations are nevertheless provided, but do not necessarily represent every location where a particular claim term may be found in the prior art reference. VIZIO reserves the right to rely on additional, or different, portions of the prior art references other than those specifically cited in the claims chart provided herewith. VIZIO reserves the right to supplement and/or amend these contentions based on the above-identified prior art considered individually or in combination with additional information learned during discovery and/or the Court's claim construction ruling. In addition, VIZIO may become aware of additional references as discovery progresses, and VIZIO reserves the right to use such references to demonstrate that the asserted claims of the asserted patents are invalid as anticipated or obvious.

### **1. Anticipation and Obviousness**

The elements of the prior art references in Exhibits D-101 – D-108 that correspond to the claim limitations as shown in the charts can also be combined for the purpose of demonstrating anticipation, including through inherency, under 35 U.S.C. § 102 and/or rendering the claims obvious under 35 U.S.C. § 103. Accordingly, each of these prior art references can be combined with each other to render the asserted claims of the '507 Patent anticipated, including through inherency, or obvious.

### **2. Prior Art Combinations**

To the extent not anticipated, VIZIO submits that it would have been obvious, and within the skill and motivations of a person of ordinary skill in the art, to combine features of the disclosures of the attached references and/or the person's knowledge with the disclosures of other references lacking explicit disclosures of the features of any asserted claims, such that the subject matter of the asserted claims, as a whole, would have been obvious to one of ordinary skill in the art. To the extent it is argued that the foregoing references do not disclose a teaching, suggestion, and/or motivation to combine prior art references, the combination would have been obvious to a person of ordinary skill in the art at least because it would have no unexpected results, would simply represent a known alternative, would have been a simple and obvious

1 substitution of one known element for another, and/or would have been the mere  
2 obvious application of a known technique to a piece of prior art ready for the  
3 improvement. *See KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1739-40 (2007)  
4 (rejecting a “rigid” application of the teaching, suggestion, or motivation to combine  
5 test, instead espousing an “expansive and flexible” approach).

6 The invalidity charts in Exhibits D-201 – D-227 show exemplary combinations of  
7 references that render the asserted claims obvious. In addition, each prior art reference  
8 charted in Exhibits D-101 – D-108 can each be combined with other prior art identified  
9 above and/or the knowledge of a person of ordinary skill in the art to render the claims  
10 of the '507 Patent obvious. Individual prior art references in the tables above can be  
11 combined with each other to render the claims obvious. Further, to the extent that any  
12 claim element or limitation is not expressly or inherently disclosed in a prior art  
13 reference, it would have been within the skill, knowledge, and/or understanding of one  
14 of ordinary skill in the art that the disclosures of the reference could readily be modified  
15 or adapted so as to meet the element or limitation.

16 As shown in the attached claim charts, to the extent that a prior art reference may  
17 not fully disclose an element of an asserted claim or is alleged to lack disclosure of a  
18 particular claim element, such claim element is present and identified in another prior  
19 art reference. It would have been obvious to combine the disclosed claim elements  
20 based on the teachings of other art in existence at that time, the general knowledge of a  
21 person of ordinary skill in the art, and the recognition of similarities between the art and  
22 the claimed features. On an element-by-element basis, therefore, VIZIO intends to  
23 combine one or more prior art references cited herein if Plaintiff contends that a  
24 particular prior art reference lacks one or more elements of an asserted claim. In other  
25 words, VIZIO submits that each charted prior art reference can be combined with other  
26 charted prior art references if a particular prior art reference lacks or does not explicitly  
27 disclose an element or feature of an asserted claim.



1 In this manner, any element of an asserted claim can easily be identified by cross-  
2 reference to the same particular claim element in other charted prior art reference to  
3 show that the element was known in the prior art, an inherent feature of an element not  
4 otherwise fully disclosed, and/or an obvious addition or modification to the disclosed  
5 claim elements. Furthermore, identifying supporting disclosures between corresponding  
6 elements in this manner improves the brevity and clarity of the claim charts, while  
7 providing Plaintiff with notice of VIZIO's intent to rely upon the charted elements of  
8 each claim chart in Exhibits D-101 – D-108 and D-201 – D-227 to show inherency or  
9 obviousness.

10 Any obviousness combinations, including those reflected in the attached  
11 invalidity charts, are in the alternative to VIZIO's anticipation contentions and are not to  
12 be construed to suggest that any reference is not anticipatory. In particular, VIZIO is  
13 currently unaware of the extent, if any, to which Plaintiff will contend that the  
14 limitations of the claims at issue are not disclosed in the art identified by VIZIO as  
15 anticipatory. To the extent that an issue arises with respect to any such limitation,  
16 VIZIO reserves the right to identify other references and combinations, which may  
17 make obvious the addition of the allegedly missing limitation to the disclosed device,  
18 method, system, or any related characteristics.

19 In addition, common knowledge of those of ordinary skill in the art can be prior  
20 art and may be relied on by VIZIO by way of testimony or declarations in combination  
21 with the above prior art publications and patents. This includes knowledge of well-  
22 known technology and various industry standards and protocols.

23 Notably, all of the following recognized rationales support a finding of  
24 obviousness:

25 Combining prior art elements according to known methods to yield predictable  
26 results;

27 Simple substitution of one known element for another to obtain predictable  
28 results;

1 Use of known technique to improve similar devices (methods, or products) in the  
2 same way;

3 Applying a known technique to a known device (method, or product) ready for  
4 improvement to yield predictable results;

5 “Obvious to try”—choosing from a finite number of identified, predictable  
6 solutions, with a reasonable expectation of success;

7 Known work in one field of endeavor may prompt variations of it for use in either  
8 the same field or a different one based on design incentives or other market forces if the  
9 variations would have been predictable to one of ordinary skill in the art; and

10 Some teaching, suggestion, or motivation in the prior art that would have led one  
11 of ordinary skill to modify the prior art reference or to combine prior art reference  
12 teachings to arrive at the claimed invention.

13 A person of ordinary skill in the art would have been motivated to combine the  
14 above references, as each reference relates to image processing or electric power  
15 conservation, including “standby” power functionality. As the prior art relates to a  
16 similar fields of art, it would have been obvious to one skilled in the art to combine the  
17 related technologies. Accordingly, one of ordinary skill in the art would have  
18 recognized that the results of the combinations were predictable, and would have been  
19 clearly motivated to modify and combine the prior art references identified above to  
20 arrive at the alleged inventions of claims of the asserted patents.

21 Each of the separate elements of the asserted claims of the ’507 Patent was well  
22 known to those of ordinary skill in the art before the date of invention, as demonstrated  
23 in the prior art listed above. Further, the elements recited in the asserted claims of the  
24 ’507 Patent are simply combinations and modifications of these well-known elements.  
25 A person of ordinary skill in the art would have been able, and motivated, to improve  
26 the existing technology in the same or similar manner by combining or modifying the  
27 individual elements that were already known in the art to yield predictable results.  
28

1           **C.     Grounds of Invalidity under 35 U.S.C. § 101 or § 112**

2                 **1.     Invalidity Under §112**

3           Because the present litigation is in its early stages, VIZIO has yet to fully determine  
4 all claim terms that may lack an enabling disclosure or written description or that fail to  
5 meet the “definiteness” requirement of 35 U.S.C. § 112. VIZIO reserves the right to  
6 supplement its Invalidity Contentions to identify those terms that fail under 35 U.S.C. §  
7 112.

8           Nevertheless, subject to claim construction, VIZIO identifies the following  
9 exemplary claim terms as lacking an enabling disclosure or written description under  
10 35 U.S.C. § 112:

- 11           • *“a first controller configured to control a waiting mode of the broadcast*  
12 *program receiving apparatus,”*
- 13           • *“a second controller configured to be started up by a predetermined OS to*  
14 *control a processing of a received digital broadcasting signal via a*  
15 *decoder;”*
- 16           • *“a main control circuit, which is configured to be started up by a*  
17 *predetermined OS to control parts of the display portion”*
- 18           • *“the waiting condition in which an image is not displayed after stopping a*  
19 *supply of the electric power to the display portion, is controlled by the first*  
20 *controller, so as to be placeable into either of a first waiting condition or a*  
21 *second waiting condition,”*
- 22           • *“a waiting condition of the display apparatus in which an image is not*  
23 *displayed after stopping a supply of the electric power to the display*  
24 *portion, is controlled by the sub-control circuit, so as to be placeable into*  
25 *either of a first waiting condition or a second waiting condition,”*
- 26           • *“the first controller is controlled to be set in operation via supply of the*  
27 *electric power from the electronic power source unit thereto, under the first*  
28 *or second waiting condition,”*

- 1 • “the sub-control circuit is controlled to be set in operation via supply of the
- 2 electric power from the electronic power source unit thereto, under the first
- 3 or second waiting condition,”
- 4 • “the electric power supplied from the power source unit is controlled, so as
- 5 to supply the electric power to the remote control signal receiving portion,
- 6 as well as, not to supply the electric power to the second controller
- 7 including the decoder, under the first waiting condition,”
- 8 • “the electric power supplied from the power source unit is controlled, so as
- 9 to supply the electric power to the remote control signal receiving portion,
- 10 as well as, not to supply the electric power to the decoder and the main
- 11 control circuit, under the first waiting condition,”
- 12 • “the electric power supplied from the power source unit is controlled so as
- 13 to supply the electric power to the remote control signal receiving portion
- 14 and the second controller including the decoder, under the second waiting
- 15 condition,”
- 16 • “the electric power supplied from the power source unit is controlled so as
- 17 to supply the electric power to the remote control signal receiving portion,
- 18 the decoder and the main control circuit, under the second waiting
- 19 condition,” and
- 20 • “the light emitting element makes the display portion distinguishable
- 21 whether the display apparatus is in the first waiting condition or the second
- 22 waiting condition.”

23 Subject to claim construction, VIZIO identifies the following exemplary claims  
 24 terms as failing to meet the “definiteness” requirement of 35 U.S.C. § 112:

- 25 • “a first controller configured to control a waiting mode of the broadcast
- 26 program receiving apparatus [...] where the first controller being smaller
- 27 in consumption of electric power than the second controller, and configured
- 28 to control the electric power supplied from the electric power source unit,

1        *responsive to the remote control signal received by the remote control*  
2        *signal receiving portion,”*

- 3        • *“a sub-control circuit, being smaller in consumption of electric power than*  
4        *the main control circuit, which is configured to control the electric power*  
5        *supplied from the electric power source unit, responsive to the remote*  
6        *control signal received by the remote control signal receiving portion,”*
- 7        • *“a second controller configured to be started up by a predetermined OS to*  
8        *control a processing of a received digital broadcasting signal via a*  
9        *decoder;”*
- 10       • *“a main control circuit, which is configured to be started up by a*  
11       *predetermined OS to control parts of the display portion”*
- 12       • *“the waiting condition in which an image is not displayed after stopping a*  
13       *supply of the electric power to the display portion, is controlled by the first*  
14       *controller, so as to be placeable into either of a first waiting condition or a*  
15       *second waiting condition,”*
- 16       • *“a waiting condition of the display apparatus in which an image is not*  
17       *displayed after stopping a supply of the electric power to the display*  
18       *portion, is controlled by the sub-control circuit, so as to be placeable into*  
19       *either of a first waiting condition or a second waiting condition,”*
- 20       • *“the electric power supplied from the power source unit is controlled, so as*  
21       *to supply the electric power to the remote control signal receiving portion,*  
22       *as well as, not to supply the electric power to the second controller*  
23       *including the decoder, under the first waiting condition,”*
- 24       • *“the electric power supplied from the power source unit is controlled, so as*  
25       *to supply the electric power to the remote control signal receiving portion,*  
26       *as well as, not to supply the electric power to the decoder and the main*  
27       *control circuit, under the first waiting condition,”*

- “the electric power supplied from the power source unit is controlled so as to supply the electric power to the remote control signal receiving portion and the second controller including the decoder, under the second waiting condition,” and
- “the electric power supplied from the power source unit is controlled so as to supply the electric power to the remote control signal receiving portion, the decoder and the main control circuit, under the second waiting condition.”

## 2. Invalidity Under §101

In addition, the claims are patent ineligible under 35 U.S.C. § 101 because they are directed to the abstract idea of turning off unused electrical components to reduce energy consumption, fail to provide an inventive concept, and require no improved components or hardware.

## VI. U.S. PATENT NO. 7,760,213

### A. Identification of Prior Art

#### 1. Prior Art Patents and Patent Applications

Prior Art to U.S. Patent No. 7,760,213	
Patent / Published Application No.	Date of Issue or Publication
U.S. Patent No. 5,255,080	1993-10-19
U.S. Patent No. 5,414,538	1995-05-09
U.S. Patent No. 6,075,574	2000-06-13
U.S. Patent No. 6,148,103	2000-11-14
U.S. Patent No. 6,239,782	2001-05-29
U.S. Patent No. 6,285,413	2001-09-04
U.S. Patent No. 6,373,533	2002-04-16
U.S. Patent No. 6,463,173	2002-10-08
U.S. Patent No. 6,529,622)	2003-03-04
U.S. Patent No. 6,795,053	2004-09-21

**Prior Art to U.S. Patent No. 7,760,213**

<b>Patent / Published Application No.</b>	<b>Date of Issue or Publication</b>
U.S. Patent No. 7,113,227	2006-09-26
U.S. Patent No. 7,283,676	2007-10-16
U.S. Patent No. 7,289,154	2007-10-30
U.S. Patent No. 7,440,011	2008-10-21
U.S. Patent No. 7,702,222	2010-04-20
U.S. Patent No. 7,877,775	2011-01-25
U.S. Patent No. 7,948,563	2011-05-24
U.S. Patent No. 8,056,113	2011-11-08
U.S. Patent No. 9,195,481	2015-11-24
U.S. Patent No. 9,866,895	2018-01-09
U.S. Patent No. 10,924,813	2021-02-16
U.S. Patent App. Pub. No. 2003/0107681	2003-06-12
U.S. Patent App. Pub. No. 2003/0161549	2003-08-28
U.S. Patent App. Pub. No. 2003/0174887	2003-09-18
U.S. Patent App. Pub. No. 2005/0104974	2005-05-19
U.S. Patent App. Pub. No. 2015/0333971	2015-11-19
CA2336803	2000-11-16
CN1338662	2002-03-06
EP 0 801 509	2008-10-15
EP98109976	1999-12-08
JP3215388B2	2001-01-30
JP2000194310	2000-07-14
JP2001134226	2001-05-18
JP2001136411	2001-05-18
JP2002055664	2001-10-02

**Prior Art to U.S. Patent No. 7,760,213**

<b>Patent / Published Application No.</b>	<b>Date of Issue or Publication</b>
KR100200630	1996-10-09
KR101251963	2013-04-08
KR960028187	1994-12-31
KR19980066224	2002-04-13
KR19990002523	1999-01-15
WO 01/39495	2001-05-35

**2. Prior Art Non-Patent Publications**

**Prior Art to U.S. Patent No. 7,760,213**

<b>Title</b>	<b>Author(s)</b>	<b>Date of Publication (at least by)</b>
Handbook of Image & Video Processing (2 <sup>nd</sup> Ed.)	Al Bovik	2005
Handbook of Image & Video Processing (1 <sup>st</sup> Ed.)	Al Bovik	2000

**B. Anticipation And Obviousness Allegations and Claim Charts<sup>6</sup>**

Exhibits E-101 – E-103 and E-201 – E-206 attached hereto contain charts for prior art that anticipates and/or renders obvious the asserted claims of the '213 Patent, and identifying where specifically in the alleged prior art each limitation of each asserted claim is found. VIZIO further incorporates by reference prior art references of record before the USPTO during prosecution of the '213 Patent and any related patents/applications or proceedings.

In the absence of a claim construction order from the Court, VIZIO has relied upon the Plaintiff's apparent interpretation of the Asserted Claims of the Asserted Patents as reflected in Plaintiff's Infringement Contentions (to the extent any construction is evidenced by Plaintiff's application of the claims in such contentions).

<sup>6</sup> The earliest possible effective filing date of the '213 Patent is April 5, 2002. Thus the pre-AIA provisions of Title 35 apply.



1 This reliance upon those apparent interpretations should not be taken to mean that  
2 VIZIO necessarily agrees with such interpretations or that VIZIO is precluded from  
3 propounding alternative claim constructions.

4 To the extent any limitation is deemed not to be met exactly by an item of prior  
5 art, VIZIO submits that the difference would have been obvious to a person of ordinary  
6 skill in the art and within the knowledge of one skilled in the art at the time of the  
7 alleged invention, so that the claimed invention would have been obvious in light of the  
8 single reference alone or combined with other references and/or the knowledge of one  
9 skilled in the art. Further, to the extent that any claim element or limitation is not  
10 expressly or inherently disclosed in a prior art reference, it would have been within the  
11 skill, knowledge, and/or understanding of one of ordinary skill in the art that the  
12 disclosures of the reference could readily be modified or adapted so as to meet the  
13 element or limitation.

14 As a general matter, all portions of each prior art reference are relied upon to  
15 support the disclosure of each patent claim limitation, as all portions provide general  
16 support. Supporting citations are nevertheless provided, but do not necessarily represent  
17 every location where a particular claim term may be found in the prior art reference.  
18 VIZIO reserves the right to rely on additional, or different, portions of the prior art  
19 references other than those specifically cited in the claims chart provided herewith.  
20 VIZIO reserves the right to supplement and/or amend these contentions based on the  
21 above-identified prior art considered individually or in combination with additional  
22 information learned during discovery and/or the Court's claim construction ruling. In  
23 addition, VIZIO may become aware of additional references as discovery progresses,  
24 and VIZIO reserves the right to use such references to demonstrate that the asserted  
25 claims of the asserted patents are invalid as anticipated or obvious.

### 26 **1. Anticipation and Obviousness**

27 The elements of the prior art references in Exhibits E-101 – E-103 that  
28 correspond to the claim limitations as shown in the charts can also be combined for the

purpose of demonstrating anticipation, including through inherency, under 35 U.S.C. § 102 and/or rendering the claims obvious under 35 U.S.C. § 103. Accordingly, each of these prior art references can be combined with each other to render the asserted claims of the '213 Patent anticipated, including through inherency, or obvious.

## **2. Prior Art Combinations**

To the extent not anticipated, VIZIO submits that it would have been obvious, and within the skill and motivations of a person of ordinary skill in the art, to combine features of the disclosures of the attached references and/or the person's knowledge with the disclosures of other references lacking explicit disclosures of the features of any asserted claims, such that the subject matter of the asserted claims, as a whole, would have been obvious to one of ordinary skill in the art. To the extent it is argued that the foregoing references do not disclose a teaching, suggestion, and/or motivation to combine prior art references, the combination would have been obvious to a person of ordinary skill in the art at least because it would have no unexpected results, would simply represent a known alternative, would have been a simple and obvious substitution of one known element for another, and/or would have been the mere obvious application of a known technique to a piece of prior art ready for the improvement. *See KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1739-40 (2007) (rejecting a "rigid" application of the teaching, suggestion, or motivation to combine test, instead espousing an "expansive and flexible" approach).

The invalidity charts in Exhibit E-201 – E-206 show exemplary combinations of references that render the asserted claims obvious. In addition, each prior art reference charted in Exhibit E-101 – E-103 can each be combined with other prior art identified above and/or the knowledge of a person of ordinary skill in the art to render the claims of the '213 Patent obvious. Individual prior art references in the tables above can be combined with each other to render the claims obvious. Further, to the extent that any claim element or limitation is not expressly or inherently disclosed in a prior art reference, it would have been within the skill, knowledge, and/or understanding on one

1 of ordinary skill in the art that the disclosures of the reference could readily be modified  
2 or adapted so as to meet the element or limitation.

3 As shown in the attached claim charts, to the extent that a prior art reference may  
4 not fully disclose an element of an asserted claim or is alleged to lack disclosure of a  
5 particular claim element, such claim element is present and identified in another prior  
6 art reference. It would have been obvious to combine the disclosed claim elements  
7 based on the teachings of other art in existence at that time, the general knowledge of a  
8 person of ordinary skill in the art, and the recognition of similarities between the art and  
9 the claimed features. On an element-by-element basis, therefore, VIZIO intends to  
10 combine one or more prior art references cited herein if Plaintiff contends that a  
11 particular prior art reference lacks one or more elements of an asserted claim. In other  
12 words, VIZIO submits that each charted prior art reference can be combined with other  
13 charted prior art references if a particular prior art reference lacks or does not explicitly  
14 disclose an element or feature of an asserted claim.

15 In this manner, any element of an asserted claim can easily be identified by cross-  
16 reference to the same particular claim element in other charted prior art reference to  
17 show that the element was known in the prior art, an inherent feature of an element not  
18 otherwise fully disclosed, and/or an obvious addition or modification to the disclosed  
19 claim elements. Furthermore, identifying supporting disclosures between corresponding  
20 elements in this manner improves the brevity and clarity of the claim charts, while  
21 providing Plaintiff with notice of VIZIO's intent to rely upon the charted elements of  
22 each claim chart in Exhibit E-101 – E-103 and E-201 – E-205 to show inherency or  
23 obviousness.

24 Any obviousness combinations, including those reflected in the attached  
25 invalidity charts, are in the alternative to VIZIO's anticipation contentions and are not to  
26 be construed to suggest that any reference is not anticipatory. In particular, VIZIO is  
27 currently unaware of the extent, if any, to which Plaintiff will contend that the  
28 limitations of the claims at issue are not disclosed in the art identified by VIZIO as

1 anticipatory. To the extent that an issue arises with respect to any such limitation, VIZIO  
2 reserves the right to identify other references and combinations, which may make  
3 obvious the addition of the allegedly missing limitation to the disclosed device, method,  
4 system, or any related characteristics.

5 In addition, common knowledge of those of ordinary skill in the art can be prior  
6 art and may be relied on by VIZIO by way of testimony or declarations in combination  
7 with the above prior art publications and patents. This includes knowledge of well-  
8 known technology and various industry standards and protocols.

9 Notably, all of the following recognized rationales support a finding of  
10 obviousness:

11 Combining prior art elements according to known methods to yield predictable  
12 results;

13 Simple substitution of one known element for another to obtain predictable  
14 results;

15 Use of known technique to improve similar devices (methods, or products) in the  
16 same way;

17 Applying a known technique to a known device (method, or product) ready for  
18 improvement to yield predictable results;

19 “Obvious to try”—choosing from a finite number of identified, predictable  
20 solutions, with a reasonable expectation of success;

21 Known work in one field of endeavor may prompt variations of it for use in either  
22 the same field or a different one based on design incentives or other market forces if the  
23 variations would have been predictable to one of ordinary skill in the art; and

24 Some teaching, suggestion, or motivation in the prior art that would have led one  
25 of ordinary skill to modify the prior art reference or to combine prior art reference  
26 teachings to arrive at the claimed invention.

27 A person of ordinary skill in the art would have been motivated to combine the  
28 above references, as each reference relates to adjusting the luminance of video signals.

1 As the prior art relates to a similar field of art, it would have been obvious to one skilled  
2 in the art to combine the related technologies. Accordingly, one of ordinary skill in the  
3 art would have recognized that the results of the combinations were predictable, and  
4 would have been clearly motivated to modify and combine the prior art references  
5 identified above to arrive at the alleged inventions of claims of the asserted patents.

6 Each of the separate elements of the asserted claims of the '213 Patent was well  
7 known to those of ordinary skill in the art before the date of invention, as demonstrated  
8 in the prior art listed above. Further, the elements recited in the asserted claims of the  
9 '213 Patent are simply combinations and modifications of these well-known elements.  
10 A person of ordinary skill in the art would have been able, and motivated, to improve  
11 the existing technology in the same or similar manner by combining or modifying the  
12 individual elements that were already known in the art to yield predictable results.

### 13 **C. Grounds of Invalidity under 35 U.S.C. § 101 or § 112**

#### 14 **1. Invalidity Under §112**

15 Because the present litigation is in its early stages, VIZIO has yet to fully determine  
16 all claim terms that may lack an enabling disclosure or written description or that fail to  
17 meet the “definiteness” requirement of 35 U.S.C. § 112. VIZIO reserves the right to  
18 supplement its Invalidity Contentions to identify those terms that fail under 35 U.S.C. §  
19 112.

20 Nevertheless, subject to claim construction, VIZIO identifies the following  
21 exemplary claim terms as lacking an enabling disclosure or written description under  
22 35 U.S.C. § 112:

- 23 • *“a contrast adjusting unit to adjust the contrast of the video image by*  
24 *controlling the gain of the video signal based on a maximum luminance*  
25 *level information and an average luminance level information of the video*  
26 *signal,”*
- 27 • *“a black level extension unit to perform black level extension processing*  
28 *for the video signal,”*

- *“the black level extension unit is configured to decrease an output luminance level corresponding to an input luminance level which is equal to or lower than a starting level set for the video signal in the case where the contrast is adjusted to increase by the contrast adjusting unit,”*
- *“the contrast adjusting unit is configured to adjust the contrast of the video image by controlling the gain of an analog video signal or the gain of a digital video signal,” and*
- *“black level extension unit performs the black level extension processing based on the average luminance level information of the video signal.”*

Subject to claim construction, VIZIO identifies the following exemplary claims terms as failing to meet the “definiteness” requirement of 35 U.S.C. § 112:

- *“a contrast adjusting unit to adjust the contrast of the video image by controlling the gain of the video signal based on a maximum luminance level information and an average luminance level information of the video signal,”*
- *“a black level extension unit to perform black level extension processing for the video signal,”*
- *“the black level extension unit is configured to decrease an output luminance level corresponding to an input luminance level which is equal to or lower than a starting level set for the video signal in the case where the contrast is adjusted to increase by the contrast adjusting unit,”*
- *“the contrast adjusting unit is configured to adjust the contrast of the video image by controlling the gain of an analog video signal or the gain of a digital video signal,” and*
- *“the maximum luminance level information and the average luminance level information are detected for a period of one frame or one field of the video image,” and*

- “black level extension unit performs the black level extension processing based on the average luminance level information of the video signal.”

## **2. Invalidity Under §101**

In addition, the claims are patent ineligible under 35 U.S.C. § 101 because they are directed to the abstract idea of adjusting contrast and decreasing the luminance of the dark portions of video signals, fail to provide an inventive concept, and require no improved components or hardware.

1 Dated: July 15, 2022

AKIN GUMP STRAUSS HAUER & FELD LLP

2  
3 By Cono A. Carrano  
4 Paul D. Tripodi II  
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6 Brock F. Wilson  
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11 VIZIO, Inc.  
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# CERTIFICATE OF SERVICE

I hereby certify that all counsel of record who are deemed to have consented to electronic service were served on the 15th day of July, 2022 with a copy of VIZIO's Infringement Contentions via electronic mail. This corrected version containing inadvertently omitted, previously-produced prior art references is served on the same counsel of record on July 20, 2022, promptly after Defendant discovered the omission.

Dated: July 20, 2022

By: /s/ Clark Gordon

Clark Gordon