

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

HERMES IP MANAGEMENT LLC,

Plaintiff,

v.

SAMSUNG ELECTRONICS CO., LTD. and
SAMSUNG ELECTRONICS AMERICA,
INC.,

Defendants.

CASE NO. 2:24-CV-00540-JRG

JURY TRIAL DEMANDED

**DEFENDANTS SAMSUNG ELECTRONICS CO., LTD. AND SAMSUNG
ELECTRONICS AMERICA, INC.'S INITIAL INVALIDITY CONTENTIONS**

I. Introduction

Pursuant to Patent Local Rules 3-3 and 3-4 and the Court's Docket Control Order (Dkt. 23), Defendants Samsung Electronics Co., Ltd. And Samsung Electronics America, Inc. (collectively, "Samsung" or "Defendants") provide these initial invalidity contentions ("Invalidity Contentions") to plaintiff Hermes IP Management, LLC ("Plaintiff" or "Hermes") for the following patents (collectively, "Asserted Patents") and claims (collectively, "Asserted Claims") identified as asserted in Plaintiff's Local Patent Rule 3-1 and 3-2 Disclosures ("Infringement Contentions") served on November 15, 2024:

- U.S. Patent No. 9,613,060 ("060 Patent") – Claims 1, 3, 4, 6, 7, 9, 11, and 12 ("060 Asserted Claims")
- U.S. Patent No. 8,537,977 ("977 Patent") – Claims 6–9, 18, and 19 ("977 Asserted Claims")
- U.S. Patent No. 8,855,720 ("720 Patent") – Claims 8–11 and 13–15 ("720 Asserted Claims")

Samsung addresses the invalidity of the Asserted Claims and concludes with a description of its document production and identification of additional reservations and explanations. These

Invalidity Contentions use the acronym “POSITA” to refer to a person having ordinary skill in the art to which the alleged invention pertains.

For any patent that claims priority to an earlier application, Hermes was required, in its Patent Rule 3-1(e) disclosures, to state the priority date to which each relevant claim is allegedly entitled. In its P.R. 3-1(e) disclosures, Hermes did not meet this burden. Hermes states: “The ’720 Patent issued from U.S. patent application Serial Number 13/466,699 filed on May 8, 2012, claims priority to U.S. patent application No. 11/911,277 filed on June 15, 2006. The ’060 Patent issued from U.S. patent application No. 11/911,879 filed on April 19, 2006, claims priority to Korean patent application No. 10-2005-0032452 filed on April 19, 2005. 28. The ’977 Patent issued from U.S. patent application No. 12/525,050 filed on April 4, 2008, claims priority to Korean patent application No. 10-2007-0035046 filed on April 10, 2007 and Korean patent application No. 10-2008-0016382 filed on February 22, 2008.” For purposes of these Invalidity Contentions only, Samsung has assumed that the priority dates of: (i) April 19, 2005 for the ’060 Patent, (ii) February 22, 2008 for the ’977 Patent, and (iii) May 8, 2012 for the ’720 Patent.¹

II. ’060 Patent

a. Priority Date

The application that issued as the ’060 Patent was filed on March 27, 2008. In its P.R. 3-1(e) disclosures for the ’060 Patent, Hermes states: “The ’060 Patent issued from U.S. patent application No. 11/911,879 filed on April 19, 2006, claims priority to Korean patent application No. 10-2005-0032452 filed on April 19, 2005.” For purposes of these Invalidity Contentions only, Samsung has assumed that the priority date of the ’060 Patent is April 19, 2005. Samsung

¹ For reasons noted in Section III.a, the ’977 Asserted Claims are not entitled to an earlier effective filing date than February 22, 2008. For reasons noted in Section IV.a, the ’720 Asserted Claims are not entitled to an earlier effective filing date than May 8, 2012.

reserves the right to supplement its Invalidity Contentions to the extent that Hermes asserts that the '060 Patent is entitled to a different priority date.

b. Prior Art References²

Samsung identifies the following prior art that is now known to Samsung to anticipate or render obvious the '060 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), (e), and/or (g), either expressly or inherently as understood by a POSITA, or based on Hermes's asserted interpretation of the claims.

i. Prior Art Patents and Patent Publications

The following patents and publications are prior art to the '060 Asserted Claims under 35 U.S.C. §§ 102(a), (b), (e), and/or (g). Attached are charts demonstrating how these references disclose and/or suggest the limitations of the '060 Asserted Claims. Insofar as Hermes contends that any of the references listed below are not enabling, then the '060 Asserted Claims are invalid for lack of enablement. Samsung's investigation into prior art patents and patent publications is ongoing, and Samsung reserves the right to identify additional references.

Ex.	Patent / Pub. Number	Country of Origin	Filing Date	Pub. / Issue Date
A-01	JP2004-215079 ("Hasegawa")	Japan	January 7, 2003	July 29, 2004
A-02	US7978232B1 ("Khan")	United States	February 5, 2004	July 12, 2011
A-03	US20050041015 ("Kohda")	United States	August 19, 2004	February 24, 2005
A-04	JPH10-150625 ("Nishikawa")	Japan	November 15, 1996	June 02, 1998
A-05	JP2004423456 ("Odajima")	Japan	January 31, 2003	January 31, 2003
A-06	JP2005100274A ("Omura")	Japan	September 26, 2003	April 14, 2005
A-07	WO2003032005A2 ("Pande")	France	October 9, 2002	April 17, 2003

² To the extent a reference is not in English, the corresponding chart refers to a machine and/or certified human translation of the reference, which is produced herewith in accordance with P. R. 3-4(b). Samsung reserves the right to rely on additional certified human translations of references that it obtains in the course of its investigation.

A-08	US20020040271 (“Park ’271”)	United States	Aug. 17, 2001	Apr. 04, 2002
A-09	US 20050169499A1 (“Rodriguez”)	United States	February 3, 2005	August 04, 2005
A-10	US20070195373A1 (“Singh”)	United States	October 8, 2004	August 23, 2007
A-11	US20060080286 (“Svendsen”)	United States	August 31, 2004	April 13, 2006
A-12	JP2005-039702 (“Uchida”)	Japan	July 18, 2003	February 10, 2005
A-13	JP2005084032 (“Watanabe”)	Japan	September 11, 2003	March 31, 2005

ii. Prior Art Systems

The following systems are prior art to the ’060 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), and/or (g). Attached are charts demonstrating how these references disclose and/or suggest the limitations of the ’060 Asserted Claims. Samsung’s further investigation and/or subsequent discovery from Hermes or third parties with knowledge regarding prior art systems may reveal additional relevant prior art systems and/or further information regarding the systems identified below, or other relevant prior art systems. Samsung reserves the right to supplement these Invalidity Contentions, based on subsequent investigation and discovery including from third parties.

Ex.	System	Short Name	Public Availability Date
A-14	Nikon D1H	D1H	No later than February, 2001
A-15	Nikon D1X	D1X	No later than February, 2001

1. Nikon D1H and D1X

Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Nikon D1H and D1X. D1H and D1X qualify as prior art under §102 because they were either (1) in public use or on sale in the United States

no later than April 19, 2005 or (2) reduced to practice in the United States no later than April 19, 2005, without being abandoned, suppressed, or concealed. For example, both the D1H and D1X were released in February, 2001. Samsung reserves the right to rely on other sources of evidence identified as discovery and Samsung's investigation progress.

Samsung hereby further discloses all prior art systems that are described in the disclosure for the patent and non-patent prior art references listed above, as well as any systems that were developed, manufactured, offered for sale, and/or sold by any of the applicants, named inventors, assignees, owners, and/or authors of the patent and non-patent prior art references listed above.

c. Obviousness

Each of the limitations set forth below were well-known in the prior art, for at least the reasons described. Samsung reserves the right, as discovery proceeds in this matter, to identify additional limitations as being well-known in the prior art or identify additional evidence in support of the contentions set forth below.

i. “generating first image data with the terminal at a predetermined location”

The asserted claims recite “generating first image data with the terminal at a predetermined location.” This feature was well-known in the prior art, at least under Hermes's apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures (*see, e.g.*, Pande, Rodriguez, Hasegawa, Uchida, Nishikawa, Svendsen, Singh, Khan, Watanabe, Odajima).

If any prior art references or combination of references is found not to disclose or render obvious the “generating first image data with the terminal at a predetermined location” limitation, a POSITA would have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in

doing so. As detailed in the exemplary charts, terminals such as digital cameras or mobile devices with a camera, that could generate image data at a predetermined location were well-known in the field of the alleged invention (*see, e.g.*, Pande, Rodriguez, Hasegawa, Uchida, Nishikawa, Svendsen, Singh, Khan). A POSITA would have understood that to provide location-based services using location data in image data, a terminal would have to “generat[e] first image data with the terminal at a predetermined location.” Thus, to the extent any reference or combination does not disclose the claimed “generating first image data with the terminal at a predetermined location,” a POSITA would have considered it obvious to modify the reference or combination and would have had reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior art elements (e.g., a terminal such as a mobile device without a camera unit) according to known methods (i.e., according to known methods for implementing a camera unit within a mobile device or wireless terminal) to yield predictable results (e.g., a digital camera or a mobile device including a camera unit) *see e.g.*, Nikon D1H or Nikon D1X.

For example, a POSITA would have considered the modification or combination to amount to the use of the known techniques (e.g., implementing a camera unit in a terminal such as a mobile device) to improve similar devices (e.g., a mobile device without a camera) or methods in the same way (e.g., to provide a mobile device with the ability to generate image data).

As another example, a POSITA would have understood the modification or combination to amount to applying a known technique (e.g., implementing a camera unit in a terminal such as a mobile device) to a known device or method (e.g., another terminal such as a mobile device that provides location-based services) that is ready for improvement to yield predictable results (e.g.,

a method to provide location-based services using image data by a terminal equipped with a camera).

As another example, a POSITA would have understood the combination or modification to amount to the simple substitution of one known element for another to obtain predictable results.

As another example, a POSITA would have considered the combination or modification to amount to choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success (e.g., choosing from a finite number of identified, predictable solutions for generating image data with a terminal equipped with a camera).

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

ii. “receiving location data of the predetermined location”

The asserted claims recite “receiving location data of the predetermined location.” This feature was well-known in the prior art, at least under Hermes’s apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures (*see, e.g.*, Pande, Rodriguez, Hasegawa, Uchida, Nishikawa, Singh, Khan, Watanabe, Odajima).

If any prior art references or combination of references is found not to disclose or render obvious the “receiving location data” limitation, a POSITA would have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so. As detailed in the exemplary charts, GPS units that could be affixed to terminals such as mobile devices were well-known in the field of the alleged invention. *See e.g.*, Nikon D1H and D1X cameras.

A POSITA would have understood that to provide location-based services using location data in image data, that a terminal would have to be equipped to “receiv[e] location data.” Thus, to the extent any reference or combination does not disclose the claimed “receiving location data,” a POSITA would have considered it obvious to modify the reference or combination and would have had reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior elements (e.g., a mobile device or digital camera without a GPS unit) according to known methods (e.g., implementing a GPS unit to the mobile device or digital camera or another method to receive location data) to yield predictable results (e.g., a terminal such as a mobile device equipped with a camera and a GPS unit to generate image data and receive location data to provide location-based services).

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., receiving location data using GPS units) to improve similar devices (e.g., mobile devices with GPS units) in the same way (e.g., to provide a mobile device with the ability to receive location data).

As another example, a POSITA would have considered the modification or combination to amount to applying a known technique (e.g., receiving location data using GPS units) to a

known device or method (e.g., a digital camera or mobile device without GPS) that is ready for improvement (e.g., a digital camera or mobile device with the ability to receive location data) to yield predictable results (e.g., a mobile device that can provide location-based services using image data and location data).

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

iii. “prompting a user to choose whether or not to insert the received location data into the first image data to generate a second image data and, when the user chooses to do so, inserting the received location data into the first image data to generate a second image data”

The asserted claims recite “prompting a user to choose whether or not to insert the received location data into the first image data to generate a second image data and, when the user chooses to do so, inserting the received location data into the first image data to generate a second image data.” This feature was well-known in the prior art, at least under Hermes’s apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures (*see, e.g.*, Pande, Singh, Khan).

If any prior art references or combination of references is found not to disclose or render obvious the “prompting a user . . . to generate a second image data” limitation, a POSITA would

have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that “prompting a user to choose whether or not to insert the received location” was well-known in the field of the alleged invention, and providing a user with a choice would have been an obvious feature in an invention directed to providing location-based services using location data in image data. Additionally, a POSITA would have understood that “inserting the received location data . . . to generate a second image data,” was also well-known in the field. *See e.g.*, Pande, Rodriguez. Thus, to the extent any reference or combination does not disclose the claimed “prompting a user to choose whether or not to insert the received location data into the first image data to generate a second image data and, when the user chooses to do so, inserting the received location data into the first image data to generate a second image data,” a POSITA would have considered it obvious to modify the reference or combination and would have had reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior elements (e.g., a method of inserting location data into image data either automatically or without providing the user with a choice before inserting the location data into the image data) according to known methods (e.g., providing the user with a choice whether to insert the location data and then inserting location data into image data to generate a second image) to yield predictable results (e.g., prompting a user to choose whether or not to insert the received location data into the first image data to generate a second image data and, when the user chooses to do so, inserting the received location data into the first image data to generate a second image data).

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., providing the user with a choice before inserting the location data into the image data) to improve a similar method (e.g., automatically inserting location data into image data to generate a second image automatically or without prompting the user) or devices in the same way.

As another example, a POSITA would have considered the modification or combination to amount to the simple substitution of one known element (e.g., prompting the user to decide whether or not to insert the location data into the image data) for another (e.g., automatically inserting the location data into the image data) to yield predictable results (e.g., prompting a user to choose whether or not to insert the received location data into the first image data to generate a second image data and, when the user chooses to do so, inserting the received location data into the first image data to generate a second image data).

As another example, a POSITA would have considered the modification or combination to amount to applying a known technique (e.g., prompting a user with a choice to insert location data into the image data) to a known method or device (e.g., inserting location data into an image data automatically) that is ready for improvement, to yield predictable results (implementing a method prompting a user to choose whether or not to insert the received location data into the first image data to generate a second image data and, when the user chooses to do so, inserting the received location data into the first image data to generate a second image data).

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

iv. “transmitting the second image data, the second image data including the first image data and the location data, to another terminal”

The asserted claims recite “transmitting the second image data, the second image data including the first image data and the location data, to another terminal.” This feature was well-known in the prior art, at least under Hermes’s apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures (*see, e.g.,* Pande, Rodriguez, Hasegawa, Uchida, Nishikawa, Singh, Khan).

If any prior art references or combination of references is found not to disclose or render obvious the “transmitting the second image data, the second image data including the first image data and the location data, to another terminal” limitation, a POSITA would have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that in providing location-based services using location data in image data, that the image data and location data would have to be transmitted to another terminal. Thus, to the extent any reference or combination does not disclose the claimed “transmitting the second image data, the second image data including the first image data and the location data, to another terminal” a POSITA would have considered it obvious to modify the reference or combination and would have had reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior elements (e.g., a mobile device not configured to transmit images or that only transmits image data without location data) according to known methods (e.g., transmitting image data with location data) to yield predictable results.

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., transmitting the image data with or without location data) to improve a similar method or device (e.g., a mobile device that does not transmit images) in the same way (e.g., transmitting the second image data generated from inserting the location data into the first image data).

As another example, a POSITA would have considered the modification or combination to amount to the simple substitution of one known element (e.g., transmitting image data with the location data and the image data) for another (e.g., transmitting only the image data not including the location data) to yield predictable results (e.g., transmitting the second image data generated from inserting the location data into the first image data).

As another example, a POSITA would have considered the modification or combination to amount to applying a known technique (e.g., transmitting the image data with or without location data) to a known device (e.g., a mobile device that does not transmit image data) that is ready for improvement to yield predictable results (e.g., to transmit the second image data which is location data inserted into the first image data).

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

v. “receiving, at another terminal, an image corresponding to the first image data, and a menu inquiring about whether to select a location-based service”

The asserted claims recite “receiving, at another terminal, an image corresponding to the first image data, and a menu inquiring about whether to select a location-based service.” This feature was well-known in the prior art, at least under Hermes’s apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures (*see, e.g.*, Pande, Rodriguez, Singh, Park).

If any prior art references or combination of references is found not to disclose or render obvious the “receiving, at another terminal, an image corresponding to the first image data, and a menu inquiring about whether to select a location-based service” limitation, a POSITA would have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that in providing location-based services using location data in image data, that the user at the receiving terminal would receive the image data and an option to select whether or not to receive location-based services. Thus, to the extent any reference or combination does not disclose the claimed “receiving, at another terminal, an image corresponding to the first image data, and a menu inquiring about whether to select a location-

based service,” a POSITA would have considered it obvious to modify the reference or combination and would have had reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior elements (e.g., receiving a menu to inquire about a selection to the receiving user) according to known methods (e.g., receiving just an image) to yield predictable results (e.g., receiving, at another terminal, an image corresponding to the first image data, and a menu inquiring about whether to select a location-based service).

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., receiving a menu to inquire about a selection to the user) to improve a similar method (e.g., receiving an image) or methods in the same way (e.g., receiving, at another terminal, an image corresponding to the first image data, and a menu inquiring about whether to select a location-based service).

As another example, a POSITA would have considered the modification or combination to amount to the simple substitution of one known element (e.g., receiving image data with a menu inquiring about a selection) for another (e.g., receiving image data by itself or with some other data such as metadata) to yield predictable results (e.g., receiving, at another terminal, an image corresponding to the first image data, and a menu inquiring about whether to select a location-based service).

As another example, a POSITA would have considered the modification or combination to amount to applying a known technique (e.g., receiving image data) to a known method or device (e.g., receiving a menu inquiring as to whether to select an option) that is ready for improvement to yield predictable results (e.g., receiving, at another terminal, an image

corresponding to the first image data, and a menu inquiring about whether to select a location-based service).

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

vi. “displaying, at the other terminal, an image corresponding to the first image data, and a menu inquiring about whether to select a location-based service”

The asserted claims recite “displaying, at the other terminal, an image corresponding to the first image data, and a menu inquiring about whether to select a location-based service” This feature was well-known in the prior art, at least under Hermes’s apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures (*see, e.g.*, Pande, Rodriguez, Singh, Park).

If any prior art references or combination of references is found not to disclose or render obvious the “displaying, at the other terminal, an image corresponding to the first image data, and a menu inquiring about whether to select a location-based service” limitation, a POSITA would have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that in providing location-based services using location data in image data, that the image data and the menu inquiring about the location-based services would have to be displayed. Thus, to the extent any reference or combination does not disclose the claimed “displaying, at the other terminal, an image corresponding to the first image data, and a menu inquiring about whether to select a location-based service” a POSITA would have considered it obvious to modify the reference or combination and would have had reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior elements (e.g., displaying a menu inquiring about a selection) according to known methods (e.g., displaying an image) to yield predictable results (e.g., displaying, at the other terminal, an image corresponding to the first image data, and a menu inquiring about whether to select a location-based service).

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., displaying an image) to improve a similar method (e.g., displaying, at the other terminal, an image corresponding to the first image data, and a menu inquiring about whether to select a location-based service) or methods in the same way (e.g., displaying a menu inquiring about a selection).

As another example, a POSITA would have considered the modification or combination to amount to the simple substitution of one known element (e.g., displaying an image) for another (e.g., displaying a menu inquiring about a selection) to yield predictable results (e.g., displaying, at the other terminal, an image corresponding to the first image data, and a menu inquiring about whether to select a location-based service).

As another example, a POSITA would have considered the modification or combination to amount to applying a known technique (e.g., displaying a menu inquiring about a selection at a terminal) to a known method (e.g., displaying an image at a terminal) that is ready for improvement to yield predictable results (e.g., displaying, at the other terminal, an image corresponding to the first image data, and a menu inquiring about whether to select a location-based service).

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

vii. “receiving, at the other terminal, via the displayed menu, a selection input for the location-based service, from the user”

The asserted claims recite “receiving, at the other terminal, via the displayed menu, a selection input for the location-based service, from the user.” This feature was well-known in the prior art, at least under Hermes’s apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures (*see, e.g.*, Pande, Rodriguez, Singh, Park).

If any prior art references or combination of references is found not to disclose or render obvious the “receiving, at the other terminal, via the displayed menu, a selection input for the

location-based service, from the user” limitation, a POSITA would have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that in providing location-based services using location data in image data, that the user would receive a selection input through a menu. Thus, to the extent any reference or combination does not disclose the claimed “receiving, at the other terminal, via the displayed menu, a selection input for the location-based service, from the user” a POSITA would have considered it obvious to modify the reference or combination and would have had reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior elements (e.g., a selection input displayed through the menu) according to known methods (e.g., receiving an input at a terminal) to yield predictable results (receiving, at the other terminal, via the displayed menu, a selection input for the location-based service, from the user).

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., a selection input displayed through the menu) to improve a similar method (e.g., receiving, at a terminal, via the displayed menu, a selection input for the location-based service, from the user) or methods in the same way (e.g., receiving an input at a terminal).

As another example, a POSITA would have considered the modification or combination to amount to the simple substitution of one known element (e.g., receiving an input at a terminal) for another (e.g., receiving a selection input) to yield predictable results (e.g., receiving, at a terminal, via the displayed menu, a selection input for the location-based service, from the user).

As another example, a POSITA would have considered the modification or combination to amount to applying a known technique (e.g., receiving a selection input through a displayed menu) to a known device or method (e.g., receiving an input at a terminal) that is ready for improvement (e.g., receiving, at a terminal, via the displayed menu, a selection input for the location-based service, from the user) to yield predictable results.

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

viii. “receiving, at the another terminal, location-based service data corresponding to the location data of the selected second image data”

The asserted claims recite “receiving, at the another terminal, location-based service data corresponding to the location data of the selected second image data.” This feature was well-known in the prior art, at least under Hermes’s apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures (*see, e.g.,* Pande, Rodriguez, , Singh, Park).

If any prior art references or combination of references is found not to disclose or render obvious the “receiving, at the another terminal, location-based service data corresponding to the location data of the selected second image data;” limitation, a POSITA would have been

motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that in providing location-based services using location data in image data, that the user would have to receive a selection input for location-based services. Thus, to the extent any reference or combination does not disclose the claimed “receiving, at the another terminal, location-based service data corresponding to the location data of the selected second image data,” a POSITA would have considered it obvious to modify the reference or combination and would have had reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior elements (e.g., location-based services) according to known methods (e.g., receiving a service corresponding to location data) to yield predictable results (e.g., receiving, at the another terminal, location-based service data corresponding to the location data of the selected second image data).

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., receiving location data) to improve a similar method (e.g., to receive location data or a service related to it) in the same way (e.g., receiving, at a terminal, location-based service data corresponding to the location data of the selected second image data).

As another example, a POSITA would have considered the modification or combination to amount to the simple substitution of one known element (e.g., receiving location-based service data) for another (e.g., receiving location-based services) to yield predictable results (e.g., receiving, at the another terminal, location-based service data corresponding to the location data of the selected second image data).

As another example, a POSITA would have considered the modification or combination to amount to applying a known technique (e.g., receiving location data) to a known device (e.g., that is ready for improvement to yield predictable results (e.g., to receive location-based services).

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

ix. “providing the location-based service to the another terminal by using the received location-based service data”

The asserted claims recite “providing the location-based service to the another terminal by using the received location-based service data.” This feature was well-known in the prior art, at least under Hermes’s apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures (*see, e.g.*, Pande, Rodriguez, Singh, , Khan, Park).

If any prior art references or combination of references is found not to disclose or render obvious the “providing the location-based service to the another terminal by using the received location-based service data” limitation, a POSITA would have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that location-based services would be provided using the received location data. Thus, to the extent any reference or combination does not disclose the claimed “providing the location-based service to the another terminal by using the received location-based service data,” a POSITA would have considered it obvious to modify the reference or combination and would have had reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior elements (e.g., providing a location-based service) according to known methods (e.g., using location-based service data) to yield predictable results (providing a location-based service to a terminal by using received location-based service data).

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., using received location-based service data) to improve a similar method (e.g., providing a location-based service) or methods in the same way (e.g., provide a location-based service by using received location-based service data).

As another example, a POSITA would have considered the modification or combination to amount to the simple substitution of one known element (e.g., providing a location-based service using data) for another (e.g., using received location-based service data) to yield predictable results (e.g., provide a location-based service by using received location-based service data),

As another example, a POSITA would have considered the modification or combination to amount to applying a known technique (e.g., providing a service based on received location-based service data) to a known device (e.g., a terminal that provides a location-based service) that is ready for improvement (e.g., capable of receiving location-based service data) to yield predictable results. As another example, a POSITA would have considered the combination or

modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

x. Exemplary Combinations

Below is set forth a list of exemplary combinations of references, on a claim-by-claim basis for the '060 Asserted Claims. In addition to the below combinations, at least two other sets of combinations would render the '060 Asserted Claims obvious: (i) any reference identified as anticipatory in Section II.b above, in combination with the knowledge of a POSITA and (ii) any combination listed below in combination with the knowledge of a POSITA. For each dependent claim, the combinations identified for the claims from which that claim depends may also render the dependent claim obvious. For each combination identified below, a subset of the references in the combination may also render the claim obvious. Samsung reserves the right, as discovery proceeds in this matter, to identify additional combinations.

1. Independent Claim 1

- Pande in view of Singh and/or Khan
- Rodriguez in view of Singh and/or Khan
- Watanabe in view of Singh and/or Khan
- Odajima in view of Singh and/or Khan
- Pande in view of Svendsen and/or Khan

- Rodriguez in view of Svendsen and/or Khan
- Watanabe in view of Svendsen and/or Khan
- Odajima in view of Svendsen and/or Khan
- Pande in view of Park and/or Khan
- Rodriguez in view of Park and/or Khan
- Watanabe in view of Park and/or Khan
- Odajima in view of Park and/or Khan
- Pande in view of Nikon D1H/D1X in view of Singh and/or Khan
- Rodriguez in view of Nikon D1H/D1X in view of Singh and/or Khan
- Watanabe in view of Nikon D1H/D1X in view of Singh and/or Khan
- Odajima in view of Nikon D1H/D1X in view of Singh and/or Khan

2. Dependent Claim 3 (on Claim 1)

In addition to the combinations listed above for claim 1, the following exemplary combinations apply to claim 3:

- Pande in view of Singh and/or Khan
- Rodriguez in view of Singh and/or Khan
- Watanabe in view of Singh and/or Khan
- Odajima in view of Singh and/or Khan
- Pande in view of Svendsen and/or Khan
- Rodriguez in view of Svendsen and/or Khan
- Watanabe in view of Svendsen and/or Khan
- Odajima in view of Svendsen and/or Khan
- Pande in view of Park and/or Khan
- Rodriguez in view of Park and/or Khan

- Watanabe in view of Park and/or Khan
- Odajima in view of Park and/or Khan
- Pande in view of Nikon D1H/D1X in view of Singh and/or Khan
- Rodriguez in view of Nikon D1H/D1X in view of Singh and/or Khan
- Watanabe in view of Nikon D1H/D1X in view of Singh and/or Khan
- Odajima in view of Nikon D1H/D1X in view of Singh and/or Khan

3. Dependent Claim 4 (on Claim 1)

In addition to the combinations listed above for claim 1, the following exemplary combinations apply to claim 4:

- Pande in view of Singh and/or Khan Rodriguez in view of Singh and/or Khan Watanabe in view of Singh and/or Khan
- Odajima in view of Singh and/or Khan
- Pande in view of Svendsen and/or Khan
- Rodriguez in view of Svendsen and/or Khan
- Watanabe in view of Svendsen and/or Khan
- Odajima in view of Svendsen and/or Khan
- Pande in view of Park and/or Khan
- Rodriguez in view of Park and/or Khan
- Watanabe in view of Park and/or Khan
- Odajima in view of Park and/or Khan
- Pande in view of Nikon D1H/D1X in view of Singh and/or Khan
- Rodriguez in view of Nikon D1H/D1X in view of Singh and/or Khan
- Watanabe in view of Nikon D1H/D1X in view of Singh and/or Khan
- Odajima in view of Nikon D1H/D1X in view of Singh and/or Khan

4. Dependent Claim 6 (on Claim 4)

In addition to the combinations listed above for claim 4, the following exemplary combinations apply to claim 6:

- Pande in view of Singh and Khan and/or Park
- Pande in view of Park and/or Khan
- Rodriguez in view of Singh and Khan and/or Park
- Rodriguez in view of Park and/or Khan
- Watanabe in view of Park and/or Khan
- Odajima in view of Park and/or Khan
- Pande in view of Svendsen and Khan and/or Park
- Rodriguez in view of Svendsen and Khan and/or Park
- Pande in view of Nikon D1H/D1X in view of Singh and Khan and/or Park
- Rodriguez in view of Nikon D1H/D1X in view of Singh and Khan and/or Park

5. Dependent Claim 7 (on Claim 1)

In addition to the combinations listed above for claim 1, the following exemplary combinations apply to claim 7:

- Pande in view of Singh and/or Khan
- Rodriguez in view of Singh and/or Khan
- Watanabe in view of Singh and/or Khan
- Odajima in view of Singh and/or Khan
- Pande in view of Svendsen and/or Khan
- Rodriguez in view of Svendsen and/or Khan
- Watanabe in view of Svendsen and/or Khan
- Odajima in view of Svendsen and/or Khan

- Pande in view of Park and/or Khan
- Rodriguez in view of Park and/or Khan
- Watanabe in view of Park and/or Khan
- Odajima in view of Park and/or Khan
- Pande in view of Nikon D1H/D1X in view of Singh and/or Khan
- Rodriguez in view of Nikon D1H/D1X in view of Singh and/or Khan
- Watanabe in view of Nikon D1H/D1X in view of Singh and/or Khan
- Odajima in view of Nikon D1H/D1X in view of Singh and/or Khan

6. Dependent Claim 9 (on Claim 7)

In addition to the combinations listed above for claim 7, the following exemplary combinations apply to claim 9:

- Pande in view of Singh and/or Khan
- Rodriguez in view of Singh and/or Khan
- Pande in view of Svendsen and/or Khan
- Rodriguez in view of Svendsen and/or Khan
- Watanabe in view of Svendsen and/or Khan
- Odajima in view of Svendsen and/or Khan
- Pande in view of Park and/or Khan
- Rodriguez in view of Park and/or Khan
- Watanabe in view of Park and/or Khan
- Odajima in view of Park and/or Khan
- Pande in view of Nikon D1H/D1X in view of Singh and/or Khan
- Rodriguez in view of Nikon D1H/D1X in view of Singh and/or Khan
- Watanabe in view of Nikon D1H/D1X in view of Singh and/or Khan

- Odajima in view of Nikon D1H/D1X in view of Singh and/or Khan

7. Dependent Claim 11 (on Claim 1)

In addition to the combinations listed above for claim 1, the following exemplary combinations apply to claim 11:

- Pande in view of Singh and/or Khan
- Rodriguez in view of Singh and/or Khan
- Pande in view of Svendsen and/or Khan
- Rodriguez in view of Svendsen and/or Khan
- Watanabe in view of Svendsen and/or Khan
- Odajima in view of Svendsen and/or Khan
- Pande in view of Park and/or Khan
- Rodriguez in view of Park and/or Khan
- Watanabe in view of Park and/or Khan
- Odajima in view of Park and/or Khan
- Pande in view of Nikon D1H/D1X in view of Singh and/or Khan
- Rodriguez in view of Nikon D1H/D1X in view of Singh and/or Khan
- Watanabe in view of Nikon D1H/D1X in view of Singh and/or Khan
- Odajima in view of Nikon D1H/D1X in view of Singh and/or Khan

8. Dependent Claim 12 (on Claim 11)

In addition to the combinations listed above for claim 11, the following exemplary combinations apply to claim 12:

- Pande in view of Singh and/or Khan
- Rodriguez in view of Singh and/or Khan
- Pande in view of Park and/or Khan

- Rodriguez in view of Park and/or Khan
- Pande in view of Svendsen and/or Khan
- Rodriguez in view of Svendsen and/or Khan
- Watanabe in view of Svendsen and/or Khan
- Odajima in view of Svendsen and/or Khan
- Pande in view of Park and/or Khan
- Rodriguez in view of Park and/or Khan
- Watanabe in view of Park and/or Khan
- Odajima in view of Park and/or Khan
- Pande in view of Nikon D1H/D1X in view of Singh and/or Khan
- Rodriguez in view of Nikon D1H/D1X in view of Singh and/or Khan
- Watanabe in view of Nikon D1H/D1X in view of Singh and/or Khan
- Odajima in view of Nikon D1H/D1X in view of Singh and/or Khan

d. Invalidity Under 35 U.S.C. § 112

Samsung provides below its preliminary invalidity contentions under 35 U.S.C. § 112.

i. Legal Background Regarding the Indefiniteness, Enablement, and Written Description Requirements

35 U.S.C. § 112, ¶ 2 includes a definiteness requirement: “[T]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.” “[A] patent is invalid for indefiniteness if its claims, read in light of the patent’s specification and prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014).

35 U.S.C. § 112 further includes an enablement requirement: “The specification shall contain a written description . . . of the manner and process of making and using [the invention],

in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same.” 35 U.S.C. § 112, ¶ 1. To satisfy the enablement requirement, the “[t]he specification must contain sufficient disclosure to enable an ordinarily skilled artisan to make and use the entire scope of the claimed invention at the time of filing.” *Enzo Life Sciences, Inc. v. Roche Molecular Sys., Inc.*, 928 F.3d 1340, 1345 (Fed. Cir. 2019) (quoting *MagSil Corp. v. Hitachi Glob. Storage Techs., Inc.*, 687 F.3d 1377, 1381 (Fed. Cir. 2012)). A patent is invalid if “a person of ordinary skill in the art would not be able to practice the claimed invention without ‘undue experimentation.’” *Id.* (quoting *Alcon Res. Ltd. v. Barr Labs, Inc.*, 745 F.3d 1180, 1188 (Fed. Cir. 2014)). Moreover, “a patentee cannot simply rely on the knowledge of a person of ordinary skill to serve as a substitute for the missing information in the specification.” *Id.* at 1348 (quotations omitted).

35 U.S.C. § 112 further includes a written description requirement: “The specification shall contain a written description of the invention” 35 U.S.C. § 112, ¶ 1. “That requirement is satisfied only if the inventor conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention, and demonstrates that by disclosure in the specification of the patent.” *Nuvo Pharm. (Ireland) Designated Activity Co. v. Dr. Reddy’s Labs, Inc.*, 923 F.3d 1368, 1376 (Fed. Cir. 2019) (quotations omitted). “The essence of the written description requirement is that a patent applicant, as part of the bargain with the public, must describe his or her invention so that the public will know what it is and that he or she has truly made the claimed invention.” *Id.* at 1376-77 (quotations omitted). “[T]he test requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art . . . [to] show that the inventor actually invented the invention claimed.” *Rivera v. Int’l Trade Comm’n*, 857 F.3d 1315, 1319 (Fed. Cir. 2017) (quoting *Ariad*

Pharmaceuticals, Inc. v. Eli Lilly & Co., 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc)). The specification must describe the claimed invention in sufficient detail so that a POSITA can recognize what is claimed. “[T]he appearance of mere indistinct words in a specification or a claim, even an original claim, does not necessarily satisfy § 112, ¶ 1 because it may not both put others on notice of the scope of the claimed invention and demonstrate possession of that invention.” *Nuvo Pharm.* 923 F.3d at 1380 (quotations omitted).

ii. Invalidity Grounds Under 35 U.S.C. § 112

Below are set forth invalidity grounds under § 112, both for the individual ’060 Asserted Claims and for the claims of the ’060 Patent as a whole. By identifying the below claim language, Samsung does not imply that the identified language should be given patentable weight for purposes of 35 U.S.C. §§ 102, 103.

1. Indefiniteness

The below claim language fails to comport with the requirements of § 112, ¶ 2 and/or § 112, ¶ 6 because a POSITA would not have been able to determine the scope of the language with reasonable certainty when reading the claims in light of the specification and the prosecution history:

- “predetermined location” (Claim 1)
- “prompting a user” (Claim 1)
- “the map” (Claim 3)
- “guiding service” (Claim 4)
- “navigator” (Claim 4)

2. Invalidity Based on 35 U.S.C. § 112, ¶ 1 (Enablement and Written Description)

Based on Defendants' present understanding of Plaintiff's asserted scope of the claims of the '060 Patent, to the extent such positions can be understood from Plaintiff's Infringement Contentions, Defendants assert that the Asserted Claims of the '060 Patent are invalid for failure to provide a written description that enables the full scope of the Asserted Claims based on at least the following claim terms, phrases, or limitations, regardless of priority date:

- “predetermined location” (Claim 1)
- “prompting a user” (Claim 1)
- “guiding service” (Claim 4)
- “navigator” (Claim 4)

III. '977 Patent

a. Priority Date

The application that issued as the '977 Patent was filed on July 29, 2009. In its P.R. 3-1(e) disclosures for the '977 Patent, Hermes states: “The '977 Patent issued from U.S. patent application No. 12/525,050 filed on April 4, 2008, claims priority to Korean patent application No. 10-2007-0035046 filed on April 10, 2007 and Korean patent application No. 10-2008-0016382 filed on February 22, 2008.”

The '977 Asserted Claims recite limitations for controlling a mobile communication terminal based on a “recording mode.” In that regard, claims 7–9, 18 and 19 explicitly recite “mono” and/or “stereo” recording modes. However, support for this subject matter is absent from at least KR Application No. 10-2007-0035046, filed April 10, 2007. For purposes of these Invalidity Contentions only, Samsung has assumed that the priority date of the asserted claims for the '977 Patent is February 22, 2008. Samsung reserves the right to supplement its Invalidity

Contentions to the extent that Hermes asserts that the '977 Patent is entitled to a different priority date.

b. Terms Construed Under 35 U.S.C. § 112, ¶ 6

The following terms of the '977 Patent, as well as their analogues in dependent claims, may be construed pursuant to 35 U.S.C. § 112, ¶ 6, which allows for drafting claims that recite means or a step for performing a specified function without the recital of structure material, or acts in support thereof.³ In such cases, “the claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.” 35 U.S.C. § 112, ¶ 6. If a claim does not recite the term “means,” there is a rebuttable presumption that § 112, ¶ 6 does not apply. *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015). But, this presumption may be overcome where the claims recite non-structural generic placeholders that invoke § 112, ¶ 6. *See, e.g., WSOU Investments LLC v. Google LLC*, 2022-1064, 2023 WL 6531525 (Fed Cir. Oct. 6, 2023). Thus, the essential inquiry is not merely the presence or absence of the word ‘means,’ but rather “whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.” *Id.* at *3; *see also Umbanet, Inc. v. Epsilon Data Mgmt., LLC*, No. 2:16-CV-00682-JRG, 2017 WL 3508771, at *8 (E.D. Tex. Aug. 16, 2017), *aff'd*, 745 F. App'x 168 (Fed. Cir. 2018) (term “document-encoding component” governed by § 112, ¶ 6 because the “‘encoding component’ described in the patent does not refer to a known structure in the art”). Under 35 U.S.C. § 112 ¶ 2 and ¶ 6, a means-plus-function clause is indefinite if a person of ordinary skill in the art would be unable to recognize the structure in the specification and

³ Samsung asserts that at least claims 6–8 of the '977 Patent are invalid under § 112. *See* Section III.e.

associate it with the corresponding function in the claim. *See, e.g., Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1312 (Fed. Cir. 2012).

i. “voice and noise processor”

Limitation (Function Underlined)	Corresponding Structure, Acts, or Materials
<p>Claim 6: “a voice and noise processor for <u>bypassing and outputting sound signals received through the first microphone and sound signals received through the second microphone, or canceling and outputting noise from among the first and second sound signals, respectively</u>”</p>	<p>To the extent there is corresponding structure, acts, or materials it is described at '977 Patent, Fig. 5. Defendants reserve the right to argue that there is insufficient structure disclosed and that the claims are therefore invalid as indefinite.</p>

ii. “voice recording function processor”

Limitation (Function Underlined)	Corresponding Structure, Acts, or Materials
<p>Claim 6: “a <u>voice recording function processor for encoding signals output from the voice and noise processor</u>”</p>	<p>To the extent there is corresponding structure, acts, or materials, it is described at '977 Patent, Fig. 5. Defendants reserve the right to argue that there is insufficient structure disclosed and that the claims are therefore invalid as indefinite.</p>

iii. “controller”

Limitation (Function Underlined)	Corresponding Structure, Acts, or Materials
<p>Claim 6: “a controller for <u>controlling operations of the voice and noise processor and the voice recording function processor based on the recording mode of the first and second sound signals</u>”</p>	<p>To the extent there is corresponding structure, acts, or materials, it is described at '977 Patent, Fig. 5. Defendants reserve the right to argue that there is insufficient structure disclosed and that the claims are therefore invalid as indefinite.</p>

iv. “noise processor”

Limitation (Function Underlined)	Corresponding Structure, Acts, or Materials
<p>Claim 7: “a noise processor for <u>canceling noise from the first and second sound signals</u>”</p>	<p>To the extent there is corresponding structure, acts, or materials, it is described at '977 Patent, Fig. 5. Defendants reserve the right to argue that there is insufficient structure disclosed and that the claims are therefore invalid as indefinite.</p>
<p>Claim 8: “a noise processor for <u>bypassing the first and second sound signals without noise cancelation processing</u>”</p>	<p>To the extent there is corresponding structure, acts, or materials, it is described at '977 Patent, Fig. 5. Defendants reserve the right to argue that there is insufficient structure disclosed and that the claims are therefore invalid as indefinite.</p>

v. “signal filtering/combination processor”

Limitation (Function Underlined)	Corresponding Structure, Acts, or Materials
<p>Claims 7: “a <u>signal filtering/combination processor for combining the noise-free first sound signals with the noise-free second sound signals</u>, thereby generating synthesized signals”</p>	<p>To the extent there is corresponding structure, acts, or materials, it is described at '977 Patent, Fig. 5. Defendants reserve the right to argue that there is insufficient structure disclosed and that the claims are therefore invalid as indefinite.</p>
<p>Claims 8: “a <u>signal filtering/combination processor for combining the bypassed first and second sound signals</u>, thereby generating synthesized signals</p>	<p>To the extent there is corresponding structure, acts, or materials, it is described at '977 Patent, Fig. 5. Defendants reserve the right to argue that there is insufficient structure disclosed and that the claims are therefore invalid as indefinite.</p>

c. Prior Art References⁴

Samsung identifies the following prior art that is now known to Samsung to anticipate or render obvious the '977 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), (e), and/or (g),

⁴ To the extent a reference is not in English, the corresponding chart refers to a machine and/or certified human translation of the reference, which is produced herewith in accordance with P. R. 3-4(b). Samsung reserves the right to rely on additional certified human translations of references that it obtains in the course of its investigation.

either expressly or inherently as understood by a POSITA, or based on Hermes's asserted interpretation of the claims.

i. Prior Art Patents and Patent Publications

The following patents and publications are prior art to the '977 Asserted Claims under 35 U.S.C. §§ 102(a), (b), (e), and/or (g). Attached are charts demonstrating how these references disclose and/or suggest the limitations of the '977 Asserted Claims. Insofar as Hermes contends that any of the references listed below are not enabling, then the '977 Asserted Claims are invalid for lack of enablement. Samsung's investigation into prior art patents and patent publications is ongoing, and Samsung reserves the right to identify additional references.

Ex.	Patent / Pub. Number	Country of Origin	Filing Date	Pub. / Issue Date
B-01	US2007/0263847A1 ("Konchitsky")	United States	Apr. 11, 2006	November 15, 2007
B-02	US Pat. No. 8,369,555 ("Fazzio")	United States	Feb. 16, 2005	February 5, 2013
B-03	KR20040070966 ("Choi")	Korea	Feb. 5, 2003	August 11, 2004
B-04	US20080165988A1 ("Terlizzi")	United States	Jan. 5, 2007	July 10, 2008
B-05	US2008/0064336A1 ("Yoo")	United States	Sep. 7, 2007	March 13, 2008
B-06	US2006/0133621 ("Chen")	United States	Dec. 22, 2004	June 22, 2006
B-07	US2005/0136848 ("Murray")	United States	Dec. 22, 2003	June 23, 2005
B-08	JP 2005-244752 ("Kuwabara")	Japan	Mar. 2, 2004	September 8, 2005
B-09	US8467546B2 ("Hyatt")	United States	June 28, 2005	June 18, 2013
B-10	KR100574665B1 ("Park")	Korea	Oct. 7, 2004	April 12, 2006
B-11	KR100617109B1 ("Kim")	Korea	Dec. 29, 2004	August 31, 2006

ii. Prior Art Systems

The following systems are prior art to the '977 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), and/or (g). Attached are charts demonstrating how these references disclose and/or suggest the limitations of the '977 Asserted Claims. Samsung's further investigation and/or

subsequent discovery from Hermes or third parties with knowledge regarding prior art systems may reveal additional relevant prior art systems and/or further information regarding the systems identified below, or other relevant prior art systems. Samsung reserves the right to supplement these Invalidity Contentions, based on subsequent investigation and discovery including from third parties.

Ex.	System	Short Name	Public Availability Date
B-12	Zoom Handy Recorder H4	Zoom H4 Device	No later than December 7, 2006
B-13	Sony PCM-D1	Sony PCM-D1 Device	No later than October 11, 2005
B-14	Marantz PMD660 Professional Solid-State Recorder	Marantz PMD660 Device	No later than December 31, 2005
B-15	Marantz PMD671 High Resolution Compact Flash Recorder	Marantz PMD671 Device	No later than February 9, 2006

1. Zoom H4 Device

Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to the Zoom H4 Device. The Zoom H4 Device qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than December 7, 2006 or (2) reduced to practice in the United States no later than December 7, 2006 without being abandoned, suppressed, or concealed. The Zoom H4 Device was in public use or on sale in the United States and/or reduced to practice in the United States by or before December 7, 2006. Samsung reserves the right to rely on other sources of evidence identified as discovery and Samsung's investigation progress.

Samsung hereby further discloses all prior art systems that are described in the disclosure for the patent and non-patent prior art references listed above, as well as any systems that were developed, manufactured, offered for sale, and/or sold by any of the applicants, named inventors, assignees, owners, and/or authors of the patent and non-patent prior art references listed above.

2. Sony PCM-D1 Device

Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to the Sony PCM-D1 Device. The Sony PCM-D1 Device qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than October 11, 2005 or (2) reduced to practice in the United States no later than October 11, 2005 without being abandoned, suppressed, or concealed. The Sony PCM-D1 Device was in public use or on sale in the United States and/or reduced to practice in the United States by or before October 11, 2005. Samsung reserves the right to rely on other sources of evidence identified as discovery and Samsung's investigation progress.

Samsung hereby further discloses all prior art systems that are described in the disclosure for the patent and non-patent prior art references listed above, as well as any systems that were developed, manufactured, offered for sale, and/or sold by any of the applicants, named inventors, assignees, owners, and/or authors of the patent and non-patent prior art references listed above.

3. Marantz PMD660 Device

Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to the Marantz PMD660 Device. The Marantz PMD660 Device qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than December 31, 2005 or (2) reduced to practice in the United States no later than December 31, 2005 without being abandoned, suppressed, or concealed. The Marantz PMD660 Device was in public use or on sale in the United States and/or reduced to practice in the United States by or before December 31, 2005. Samsung reserves the right to rely on other sources of evidence identified as discovery and Samsung's investigation progress.

Samsung hereby further discloses all prior art systems that are described in the disclosure for the patent and non-patent prior art references listed above, as well as any systems that were developed, manufactured, offered for sale, and/or sold by any of the applicants, named inventors, assignees, owners, and/or authors of the patent and non-patent prior art references listed above.

4. Marantz PMD671 Device

Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to the Marantz PMD671. The Marantz PMD671 Device qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than February 9, 2006 or (2) reduced to practice in the United States no later than February 9, 2006 without being abandoned, suppressed, or concealed. The Marantz PMD671 Device was in public use or on sale in the United States and/or reduced to practice in the United States by or before February 9, 2006. Samsung reserves the right to rely on other sources of evidence identified as discovery and Samsung's investigation progress.

Samsung hereby further discloses all prior art systems that are described in the disclosure for the patent and non-patent prior art references listed above, as well as any systems that were developed, manufactured, offered for sale, and/or sold by any of the applicants, named inventors, assignees, owners, and/or authors of the patent and non-patent prior art references listed above.

d. Obviousness

Each of the limitations set forth below were well-known in the prior art, for at least the reasons described. Samsung reserves the right, as discovery proceeds in this matter, to identify additional limitations as being well-known in the prior art or identify additional evidence in support of the contentions set forth below.

i. “a second microphone installed on the other side of the mobile communication terminal”

The asserted claims recite a mobile communication terminal including “a second microphone installed on the other side of the mobile communication terminal.” This feature was well-known in the prior art, at least under Hermes’s apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures. *See, e.g.,* Kuwabara, Konchitsky, Park, Chen.

If any prior art references or combination of references is found not to disclose or render obvious the “second microphone installed on the other side of the mobile communication terminal” limitation, a POSITA would have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that to enable a mobile communication terminal to improve audio quality of an audio recording, it would be advantageous to equip a mobile communication terminal with a “second microphone installed on the other side of the mobile communication terminal.” Thus, to the extent any reference or combination does not disclose the claimed “second microphone installed on the other side of the mobile communication terminal.” limitation, a POSITA would have considered it obvious to modify the reference or combination and would have had a reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior art elements (e.g., modifying a prior art mobile communication terminal with a single microphone for noise cancelation or mono recording) according to known methods (e.g., according to known methods using a second microphone on the other side of a mobile communication terminal to achieve noise cancelation and/or stereo recording) to yield

predictable results (e.g., using the second microphone to facilitate removal of ambient noise from a sound signal or to record stereo audio).

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., noise cancelation and/or stereo recording implemented within a mobile device) to improve similar devices (e.g., to improve a mobile communication terminal with similar hardware and software) or methods in the same way.

As another example, a POSITA would have understood the modification or combination to amount the simple substitution of one known element (e.g., a mobile communication terminal with a single microphone) to another (e.g., a mechanism with two microphones for noise cancelation or stereo recording) to obtain predictable results (e.g., a mobile communication terminal that receives two audio signals for improved audio).

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

- ii. **“a voice and noise processor for bypassing and outputting sound signals received through the first microphone and sound signals received through the second microphone, or canceling and outputting noise from among the first and second sound signals, respectively”**

The asserted claims recite a mobile communication terminal including “a voice and noise processor for bypassing and outputting sound signals received through the first microphone and sound signals received through the second microphone, or canceling and outputting noise from among the first and second sound signals, respectively.” This feature was well-known in the prior art, at least under Hermes’s apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures. *See, e.g.*, Konchitsky, Hyatt, Chen, Terlizzi, Zoom H4 Device.

If any prior art references or combination of references is found not to disclose or render obvious the “a voice and noise processor for bypassing and outputting sound signals received through the first microphone and sound signals received through the second microphone, or canceling and outputting noise from among the first and second sound signals, respectively” limitation, a POSITA would have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that to enable a mobile communication terminal to process two sound signals to improve audio quality of voice or audio recording it would be advantageous to provide “a voice and noise processor for bypassing and outputting sound signals received through the first microphone and sound signals received through the second microphone, or canceling and outputting noise from among the first and second sound signals, respectively.” Thus, to the extent any reference or combination does not disclose the claimed “a voice and noise processor for bypassing and outputting sound signals received through the first microphone and

sound signals received through the second microphone, or canceling and outputting noise from among the first and second sound signals, respectively” limitation, a POSITA would have considered it obvious to modify the reference or combination and would have had a reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior art elements (e.g., modifying a prior art mobile communication terminal that receives and processes a sound signal) according to known methods (e.g., according to known methods for cancelling noise within received sound signals or bypassing noise cancelation) to yield predictable results (e.g., a mobile communication terminal including a processor that bypasses audio signals or cancels noise of audio signals).

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., processing two audio signals for noise cancelation and/or stereo recording) to improve similar devices (e.g., to improve a similar mobile communication terminal with a single microphone for noise cancelation and/or mono recording) or methods in the same way (e.g., to provide a mobile communication terminal with the capability of processing two audio signals for noise cancelation and/or stereo recording).

As another example, a POSITA would have understood the modification or combination to amount the simple substitution of one known element (e.g., a processor in a mobile communication terminal that processes one audio signal for noise cancelation and/or mono recording) to another (e.g., a processor in a mobile communication terminal that processes two audio signals for noise cancelation and/or stereo recording) to obtain predictable results (e.g., a mobile communication terminal that processes two audio signals for improved audio).

As another example, a POSITA would have understood the modification or combination to amount to applying a known technique (e.g., processing two audio signals for noise cancelation and/or stereo recording) to a known device or method (e.g., another mobile communication terminal that does not process two audio signals for noise cancelation and/or stereo recording) that is ready for improvement (e.g., as it includes the necessary hardware and software components) to yield predictable results (e.g., a mobile communication terminal including a processor to enable processing of two audio signals for noise cancelation and/or stereo recording).

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

iii. “a voice recording function processor for encoding signals output from the voice and noise processor”

The asserted claims recite a mobile communication terminal including “a voice recording function processor for encoding signals output from the voice and noise processor.” This feature was well-known in the prior art, at least under Hermes’s apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures. *See, e.g.,* Kuwabara, Park, Zoom H4 Device.

If any prior art references or combination of references is found not to disclose or render obvious the “a voice recording function processor for encoding signals output from the voice and noise processor” limitation, a POSITA would have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that to enable a mobile communication terminal for improved audio quality with two sound signals, it would be advantageous to provide “a voice recording function processor for encoding signals output from the voice and noise processor.” Thus, to the extent any reference or combination does not disclose the claimed “a voice recording function processor for encoding signals output from the voice and noise processor” limitation, a POSITA would have considered it obvious to modify the reference or combination and would have had a reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior art elements (e.g., modifying a prior art mobile communication terminal that receives and processes an audio signal) according to known methods (e.g., according to known methods for encoding and storing audio signals) to yield predictable results (e.g., a mobile communication terminal including a processor that encodes and stores audio).

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., encoding two audio signals for noise cancelation and/or stereo recording) to improve similar devices (e.g., to facilitate using two audio signals to improve audio quality of a similar mobile communication terminal) or methods in the same way.

As another example, a POSITA would have understood the modification or combination to amount the simple substitution of one known element (e.g., a processor in a mobile

communication terminal that encodes one audio signal) to another (e.g., a processor that encodes two audio signals) to obtain predictable results (e.g., a processor for a mobile communication terminal that encodes two audio signals).

As another example, a POSITA would have understood the modification or combination to amount to applying a known technique (e.g., encoding a plurality of audio signals) to a known device or method (e.g., another mobile communication terminal that does not encode a plurality of audio signals) that is ready for improvement (e.g., as it includes the necessary hardware and software components) to yield predictable results (e.g., a mobile communication terminal including a processor to enable encoding of a plurality of audio signals).

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

iv. “a controller for controlling operations of the voice and noise processor and the voice recording function processor based on the recording mode of the first and second sound signals”

The asserted claims recite a mobile communication terminal including “a controller for controlling operations of the voice and noise processor and the voice recording function processor based on the recording mode of the first and second sound signals.” This feature was well-known

in the prior art, at least under Hermes's apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures. *See, e.g.*, Fazio, Kuwabara, Park, Zoom H4 Device.

If any prior art references or combination of references is found not to disclose or render obvious the "a controller for controlling operations of the voice and noise processor and the voice recording function processor based on the recording mode of the first and second sound signals" limitation, a POSITA would have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that to enable a mobile communication terminal to control processor(s) for bypassing sound signals or cancelling noise from two sound signals, and encoding thereof, according to a recording mode of the mobile communication terminal, it would be advantageous to provide "a controller for controlling operations of the voice and noise processor and the voice recording function processor based on the recording mode of the first and second sound signals." Thus, to the extent any reference or combination does not disclose the claimed "a controller for controlling operations of the voice and noise processor and the voice recording function processor based on the recording mode of the first and second sound signals" limitation, a POSITA would have considered it obvious to modify the reference or combination and would have had a reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior art elements (e.g., a prior art mobile communication terminal) according to known methods (e.g., controlling processors based on a recording mode) to yield

predictable results (e.g., a mobile communication device that can implement processing of two audio signals based on a recording mode).

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., control of processors based on a recording mode) to improve similar devices (e.g., to improve a similar mobile communication terminal with processors for processing and encoding audio) or methods in the same way (e.g., to provide a mobile communication terminal with the capability to process and encode audio based on a recording mode).

As another example, a POSITA would have understood the modification or combination to amount to applying a known technique (e.g., control of processors based on a recording mode) to a known device or method (e.g., another mobile communication terminal that does not control processors based on a recording mode) that is ready for improvement (e.g., as it includes the necessary hardware and software components) to yield predictable results (e.g., a mobile communication terminal including a controller to enable control of processors based on a recording mode).

As another example, a POSITA would have understood the modification or combination to amount the simple substitution of one known element to another to obtain predictable results.

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

v. “when the recording mode of the first and second sound signals is a mono mode, the voice and noise processor comprises a noise processor for canceling noise from the first and second sound signals”

The asserted claims recite a mobile communication terminal wherein “when the recording mode of the first and second sound signals is a mono mode, the voice and noise processor comprises a noise processor for canceling noise from the first and second sound signals.” This feature was well-known in the prior art, at least under Hermes’s apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures. *See, e.g.,* Kuwabara, Zoom H4 Device.

If any prior art references or combination of references is found not to disclose or render obvious the “when the recording mode of the first and second sound signals is a mono mode, the voice and noise processor comprises a noise processor for canceling noise from the first and second sound signals” limitation, a POSITA would have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that when implementing a mobile communication terminal with multiple microphones in a mono mode, it would be advantageous for “when the recording mode of the first and second sound signals is a mono mode, the voice and noise processor comprises a noise processor for canceling noise from the first and second sound signals.” Thus, to the extent any reference or combination does not disclose the claimed “when the recording mode of the first and second sound signals is a mono mode, the voice and noise

processor comprises a noise processor for canceling noise from the first and second sound signals” limitation, a POSITA would have considered it obvious to modify the reference or combination and would have had a reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior art elements (e.g., modifying a prior art mobile communication terminal that noise-cancels one sound signal) according to known methods (e.g., according to known methods for processing two audio signals for noise cancelation) to yield predictable results (e.g., a mobile communication terminal including a processor that cancels noise of two audio signals).

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., processing two audio signals for noise cancelation) to improve similar devices (e.g., to improve a similar mobile communication terminal with a single microphone for noise cancelation) or methods in the same way (e.g., to provide a mobile communication terminal with the capability of processing two audio signals for noise cancelation).

As another example, a POSITA would have understood the modification or combination to amount the simple substitution of one known element (e.g., a processor in a mobile communication terminal that processes one audio signal for noise cancelation) to another (e.g., a processor in a mobile communication terminal that processes two audio signals for noise cancelation) to obtain predictable results (e.g., a mobile communication terminal that processes two audio signals for improved audio).

As another example, a POSITA would have understood the modification or combination to amount to applying a known technique (e.g., processing two audio signals for noise

cancelation) to a known device or method (e.g., another mobile communication terminal that does not process two audio signals for noise cancelation) that is ready for improvement (e.g., as it includes the necessary hardware and software components) to yield predictable results (e.g., a mobile communication terminal including a processor to enable processing of two audio signals for noise cancelation).

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

- vi. **“when the recording mode of the first and second sound signals is a mono mode, the voice and noise processor comprises . . . a signal filtering/combination processor for combining the noise-free first sound signals with the noise-free second sound signals, thereby generating synthesized signals”**

The asserted claims recite a mobile communication terminal wherein “when the recording mode of the first and second sound signals is a mono mode, the voice and noise processor comprises . . . a signal filtering/combination processor for combining the noise-free first sound signals with the noise-free second sound signals.” This feature was well-known in the prior art, at least under Hermes’s apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures. *See, e.g.,* Kuwabara, Park.

If any prior art references or combination of references is found not to disclose or render obvious the “when the recording mode of the first and second sound signals is a mono mode, the voice and noise processor comprises . . . a signal filtering/combination processor for combining the noise-free first sound signals with the noise-free second sound signals” limitation, a POSITA would have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that when implementing a mobile communication terminal with multiple microphones in a mono mode, it would be advantageous for “when the recording mode of the first and second sound signals is a mono mode, the voice and noise processor comprises . . . a signal filtering/combination processor for combining the noise-free first sound signals with the noise-free second sound signals.” Thus, to the extent any reference or combination does not disclose the claimed “when the recording mode of the first and second sound signals is a mono mode, the voice and noise processor comprises . . . a signal filtering/combination processor for combining the noise-free first sound signals with the noise-free second sound signals” limitation, a POSITA would have considered it obvious to modify the reference or combination and would have had a reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior art elements (e.g., modifying a prior art mobile communication terminal that records two audio signals) according to known methods (e.g., according to known methods for implementing a processor that combines audio signals) to yield predictable results (e.g., a mobile communication terminal that includes a processor for combining audio signals to generate synthesized audio signals in a mono mode).

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., techniques for combining two or more audio signals) to improve similar devices (e.g., to improve a similar mobile communication terminal that records two received sound signals) or methods in the same way (e.g., to provide a mobile communication terminal with a processor capable of combining received sound signals regardless of noise cancelation to generate synthesized signal when in a mono mode).

As another example, a POSITA would have understood the modification or combination to amount the simple substitution of one known element (e.g., a processor that combines audio signals to generate synthesized signals) to another (e.g., a mobile communication terminal that receives and records two sound signals) to obtain predictable results (e.g., a mobile communication terminal with a processor that combines audio signals regardless of noise cancelation to generate a synthesized signal when in a mono recording mode).

As another example, a POSITA would have understood the modification or combination to amount to applying a known technique (e.g., a processor for combining two or more audio signals to generate synthesized signals) to a known device or method (e.g., another mobile communication terminal that receives two audio signals) that is ready for improvement (e.g., as it includes the necessary hardware and software components) to yield predictable results (e.g., a mobile communication terminal that combines two sound signals in a mono mode to generate synthesized sound signal).

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

vii. “when the recording mode of the first and second sound signals is a mono mode, the voice and noise processor comprises a noise processor for bypassing the first and second sound signals without noise cancelation processing”

The asserted claims recite a mobile communication terminal wherein “when the recording mode of the first and second sound signals is a mono mode, the voice and noise processor comprises a noise processor for bypassing the first and second sound signals without noise cancelation processing.” This feature was well-known in the prior art, at least under Hermes’s apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures. *See, e.g., Park, Zoom H4 Device.*

If any prior art references or combination of references is found not to disclose or render obvious the “when the recording mode of the first and second sound signals is a mono mode, the voice and noise processor comprises a noise processor for bypassing the first and second sound signals without noise cancelation processing” limitation, a POSITA would have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that when implementing a mobile communication terminal with multiple microphones in a mono mode, it would be advantageous for “when the recording mode of the first and second sound signals is a mono mode, the voice and noise

processor comprises a noise processor for bypassing the first and second sound signals without noise cancelation processing.” Thus, to the extent any reference or combination does not disclose the claimed “when the recording mode of the first and second sound signals is a mono mode, the voice and noise processor comprises a noise processor for bypassing the first and second sound signals without noise cancelation processing” limitation, a POSITA would have considered it obvious to modify the reference or combination and would have had a reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior art elements (e.g., modifying a prior art mobile communication terminal that receives and processes audio signals) according to known methods (e.g., according to known methods for receiving audio signals without noise cancelation processing) to yield predictable results (e.g., a mobile communication terminal including a processor that bypasses two audio signals when in a mono mode).

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., bypassing received sound signals for recording audio) to improve similar devices (e.g., to improve a similar mobile communication terminal that records received audio when in a mono mode) or methods in the same way (e.g., to provide a mobile communication terminal including a processor capable of bypassing two audio signals when in a mono mode).

As another example, a POSITA would have understood the modification or combination to amount the simple substitution of one known element (e.g., a processor in a mobile communication terminal that receives one audio signal for mono recording) to another (e.g., a processor in a mobile communication terminal that receives and bypasses two audio signals for

stereo recording) to obtain predictable results (e.g., a mobile communication terminal that bypasses two audio signals when in a mono mode).

As another example, a POSITA would have understood the modification or combination to amount to applying a known technique (e.g., bypassing two audio signals) to a known device or method (e.g., another mobile communication terminal that does not bypass two audio signals) that is ready for improvement (e.g., as it includes the necessary hardware and software components) to yield predictable results (e.g., a mobile communication terminal including a processor to enable bypassing of two audio signals in a mono mode).

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

viii. “when the recording mode of the first and second sound signals is a mono mode, the voice and noise processor comprises . . . a signal filtering/combination processor for combining the bypassed first and second sound signals, thereby generating synthesized signals”

The asserted claims recite a mobile communication terminal wherein “when the recording mode of the first and second sound signals is a mono mode, the voice and noise processor comprises . . . a signal filtering/combination processor for combining the bypassed first and second sound signals, thereby generating synthesized signals.” This feature was well-known in

the prior art, at least under Hermes's apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures. *See, e.g.*, Kuwabara, Park.

If any prior art references or combination of references is found not to disclose or render obvious the "when the recording mode of the first and second sound signals is a mono mode, the voice and noise processor comprises . . . a signal filtering/combination processor for combining the bypassed first and second sound signals, thereby generating synthesized signals" limitation, a POSITA would have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that when implementing a mobile communication terminal with multiple microphones in a mono mode, it would be advantageous for "when the recording mode of the first and second sound signals is a mono mode, the voice and noise processor comprises . . . a signal filtering/combination processor for combining the bypassed first and second sound signals, thereby generating synthesized signals." Thus, to the extent any reference or combination does not disclose the claimed "when the recording mode of the first and second sound signals is a mono mode, the voice and noise processor comprises . . . a signal filtering/combination processor for combining the bypassed first and second sound signals, thereby generating synthesized signals" limitation, a POSITA would have considered it obvious to modify the reference or combination and would have had a reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior art elements (e.g., modifying a prior art mobile communication terminal that records two audio signals) according to known methods (e.g., according to known

methods for implementing a processor that combines audio signals) to yield predictable results (e.g., a mobile communication terminal that includes a processor for combining audio signals to generate synthesized audio signals in a mono mode).

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., techniques for combining two or more audio signals) to improve similar devices (e.g., to improve a similar mobile communication terminal that records two received sound signals) or methods in the same way (e.g., to provide a mobile communication terminal with a processor capable of combining received sound signals regardless of noise cancelation to generate a synthesized signal when in a mono mode).

As another example, a POSITA would have understood the modification or combination to amount the simple substitution of one known element (e.g., a processor that combines audio signals to generate synthesized signals) to another (e.g., a mobile communication terminal that receives and records two sound signals) to obtain predictable results (e.g., a mobile communication terminal with a processor that combines audio signals regardless of noise cancelation to generate a synthesized signal when in a mono recording mode).

As another example, a POSITA would have understood the modification or combination to amount to applying a known technique (e.g., a processor for combining two or more audio signals to generate synthesized signals) to a known device or method (e.g., another mobile communication terminal that receives two audio signals) that is ready for improvement (e.g., as it includes the necessary hardware and software components) to yield predictable results (e.g., a mobile communication terminal that combines two sound signals in a mono mode to generate synthesized sound signal).

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

ix. “when the recording mode of the first and second sound signals is a stereo mode, the voice and noise processor bypasses the first and second sound signals without noise cancelation processing”

The asserted claims recite a mobile communication terminal wherein “when the recording mode of the first and second sound signals is a stereo mode, the voice and noise processor bypasses the first and second sound signals without noise cancelation processing.” This feature was well-known in the prior art, at least under Hermes’s apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures. *See, e.g.,* Kuwabara, Park, Zoom H4 Device.

If any prior art references or combination of references is found not to disclose or render obvious the “when the recording mode of the first and second sound signals is a stereo mode, the voice and noise processor bypasses the first and second sound signals without noise cancelation processing” limitation, a POSITA would have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that when implementing a mobile communication terminal with multiple microphones in a stereo mode, it would be advantageous for “when the recording mode of the first and second sound signals is a stereo mode, the voice and noise processor bypasses the first and second sound signals without noise cancelation processing.” Thus, to the extent any reference or combination does not disclose the claimed “when the recording mode of the first and second sound signals is a stereo mode, the voice and noise processor bypasses the first and second sound signals without noise cancelation processing” limitation, a POSITA would have considered it obvious to modify the reference or combination and would have had a reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior art elements (e.g., a prior art mobile communication terminal provided with two microphones for receiving two audio signals) according to known methods (e.g., according to known methods for implementing a processor that bypasses two audio signals when in a stereo mode) to yield predictable results (e.g., a mobile communication terminal including a processor for bypassing two received audio signals without noise cancelation processing when in a stereo mode).

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., a processor that bypasses two audio signals without noise cancelation for stereo recording) to improve similar devices (e.g., to improve a similar mobile communication terminal that records receives audio signals for stereo recording) or methods in the same way (e.g., to provide a mobile communication terminal with a processor that bypasses two audio signals without noise cancelation for stereo recording).

As another example, a POSITA would have understood the modification or combination to amount the simple substitution of one known element (e.g., a processor for cancelling noise among two received audio signals) to another (e.g., a processor for bypassing received audio) to obtain predictable results (e.g., a mobile communication terminal including a processor for bypassing two received audio signals when in a stereo mode).

As another example, a POSITA would have understood the modification or combination to amount to applying a known technique (e.g., bypassing two audio signals for stereo recording) to a known device or method (e.g., another mobile communication terminal that does not bypass two audio signals) that is ready for improvement (e.g., as it includes the necessary hardware and software components) to yield predictable results (e.g., a mobile communication terminal including a processor to enable bypassing of two audio signals).

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

x. “(b) determining whether the recording mode of the received first and second sound signals is set to a mono mode or a stereo mode”

The asserted claims recite “determining whether the recording mode of the received first and second sound signals is set to a mono mode or a stereo mode.” This feature was well-known

in the prior art, at least under Hermes's apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures. *See, e.g.,* Choi, Kuwabara, Park, Zoom H4 Device, Marantz PMD671 Device.

If any prior art references or combination of references is found not to disclose or render obvious the "(b) determining whether the recording mode of the received first and second sound signals is set to a mono mode or a stereo mode" limitation, a POSITA would have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that to enable a mobile communication terminal to encode and store received sound signals based on whether a recording mode is set to a mono recording mode or a stereo recording mode, it would be advantageous to provide "determining whether the recording mode of the received first and second sound signals is set to a mono mode or a stereo mode." Thus, to the extent any reference or combination does not disclose the claimed "determining whether the recording mode of the received first and second sound signals is set to a mono mode or a stereo mode" limitation, a POSITA would have considered it obvious to modify the reference or combination and would have had a reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior art elements (e.g., modifying a prior art mobile communication terminal that records received audio) according to known methods (e.g., according to known methods for determining a recording mode for encoding of received sound signals) to yield predictable results (e.g., a mobile communication terminal that determines whether a recording mode of received sound signals is set to mono or stereo mode).

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., determining whether a recording mode for received audio signals is set to a mono mode or a stereo mode) to improve similar devices (e.g., to improve a similar mobile communication terminal by implementing a stereo mode and a mono mode) or methods in the same way (e.g., to provide a mobile communication terminal with the capability to determine whether a recording mode is set to a mono mode or stereo mode).

As another example, a POSITA would have understood the modification or combination to amount the simple substitution of one known element to another to obtain predictable results (e.g., a mobile communication terminal with the capability to determine whether a recording mode is set to a mono mode or stereo mode).

As another example, a POSITA would have understood the modification or combination to amount to applying a known technique (e.g., determining whether a recording mode is set to a mono mode or stereo mode) to a known device or method (e.g., another mobile communication terminal that receives user input for implementing recording operations) that is ready for improvement (e.g., as it includes the necessary hardware and software components) to yield predictable results (e.g., a mobile communication terminal that determines whether a recording mode is set to a mono mode or stereo mode for processing two received sound signals).

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

- xi. “(c) combining the first sound signals with the second sound signals to generate synthesized signals when the recording mode of the received first and second signals is set to a mono mode, based on the determination result in step (b)”**

The asserted claims recite “combining the first sound signals with the second sound signals to generate synthesized signals when the recording mode of the received first and second signals is set to a mono mode, based on the determination result in step (b).” This feature was well-known in the prior art, at least under Hermes’s apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures. *See, e.g.*, Park, Zoom H4 Device, Marantz PMD671 Device.

If any prior art references or combination of references is found not to disclose or render obvious the “combining the first sound signals with the second sound signals to generate synthesized signals when the recording mode of the received first and second signals is set to a mono mode, based on the determination result in step (b)” limitation, a POSITA would have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that to enable a mobile communication terminal to generate synthesized signals by combining received sound signals in a mono recording mode, it would be advantageous to provide “(c) combining the first sound signals with the second sound signals to generate synthesized signals when the recording mode of the received first and second signals is set to a mono mode, based on the determination result in step (b).” Thus, to the extent any reference or combination does not disclose the claimed “combining the first sound signals

with the second sound signals to generate synthesized signals when the recording mode of the received first and second signals is set to a mono mode, based on the determination result in step (b)” limitation, a POSITA would have considered it obvious to modify the reference or combination and would have had a reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior art elements (e.g., modifying a prior art mobile communication terminal that records two audio signals) according to known methods (e.g., according to known methods for combining audio signals) to yield predictable results (e.g., a mobile communication terminal that combines audio signals to generate synthesized audio signals in a mono mode).

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., techniques for combining two or more audio signals) to improve similar devices (e.g., to improve a similar mobile communication terminal that receives or records two or more sound signals) or methods in the same way (e.g., to provide a mobile communication terminal with the capability of combining sound signals to generate synthesized signal).

As another example, a POSITA would have understood the modification or combination to amount the simple substitution of one known element (e.g., combining sound signals to generate a synthesized sound signal) to another (e.g., a mobile communication terminal that receives two or more sound signals to record sound signals in stereo) to obtain predictable results (e.g., a mobile communication terminal that combines two sound signals in a mono mode to generate synthesized sound signal).

As another example, a POSITA would have understood the modification or combination to amount to applying a known technique (e.g., techniques for combining two or more audio

signals to generate synthesized signals) to a known device or method (e.g., another mobile communication terminal that records stereo sound signals) that is ready for improvement (e.g., as it includes the necessary hardware and software components) to yield predictable results (e.g., a mobile communication terminal that combines two sound signals in a mono mode to generate synthesized sound signal).

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

xii. “(d) encoding the combined signals and storing the encoded signals in a mono mode”

The asserted claims recite “encoding the combined signals and storing the encoded signals in a mono mode.” This feature was well-known in the prior art, at least under Hermes’s apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures. *See, e.g.,* Park, Zoom H4 Device, Marantz PMD671 Device.

If any prior art references or combination of references is found not to disclose or render obvious the “(d) encoding the combined signals and storing the encoded signals in a mono mode” limitation, a POSITA would have been motivated to modify it or combine it with the teachings

of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that to enable a mono mode in a mobile communication terminal that implements recording two received sound signals it would be advantageous to provide “encoding the combined signals and storing the encoded signals in a mono mode.” Thus, to the extent any reference or combination does not disclose the claimed “encoding the combined signals and storing the encoded signals in a mono mode” limitation, a POSITA would have considered it obvious to modify the reference or combination and would have had a reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior art elements (e.g., modifying a prior art mobile communication terminal that records and stores two audio signals with recording in a mono mode) according to known methods (e.g., according to known methods for encoding and storing combined signals in a mono mode) to yield predictable results (e.g., a prior art mobile communication terminal that encodes combined audio signals in a mono mode).

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., implementing techniques for encoding sound signals in a mono mode) to improve similar devices (e.g., to improve a similar mobile communication terminal that encodes two sound signals in a stereo mode) or methods in the same way (e.g., to provide a mobile communication terminal that encodes combined audio signals in a mono mode).

As another example, a POSITA would have understood the modification or combination to amount the simple substitution of one known element (e.g., encoding combined audio in a

mono mode) to another (e.g., a mobile device that encodes two audio signals in a stereo mode) to obtain predictable results (e.g., a mobile devices that encodes combined audio signals in a mono mode).

As another example, a POSITA would have understood the modification or combination to amount to applying a known technique (e.g., encoding combined audio signals in a mono mode) to a known device or method (e.g., another mobile communication terminal that encodes two audio signals in a stereo mode) that is ready for improvement (e.g., as it includes the necessary hardware and software components) to yield predictable results (e.g., a mobile communication terminal that encodes combined audio in a mono mode).

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

- xiii. “(e) encoding each of the first sound signals and the second sound signals and storing the encoded signals in a stereo mode when the recording mode of the received first and second sound signals is set to a stereo mode, based on the determination result in step (b)”**

The asserted claims recite “encoding each of the first sound signals and the second sound signals and storing the encoded signals in a stereo mode when the recording mode of the received first and second sound signals is set to a stereo mode, based on the determination result in step

(b).” This feature was well-known in the prior art, at least under Hermes’s apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures. *See, e.g.*, Park, Choi, Zoom H4 Device, Marantz PMD671 Device.

If any prior art references or combination of references is found not to disclose or render obvious the “encoding each of the first sound signals and the second sound signals and storing the encoded signals in a stereo mode when the recording mode of the received first and second sound signals is set to a stereo mode, based on the determination result in step (b)” limitation, a POSITA would have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that to enable a stereo mode in a mobile communication terminal that implements recording two received sound signals it would be advantageous to provide “encoding each of the first sound signals and the second sound signals and storing the encoded signals in a stereo mode when the recording mode of the received first and second sound signals is set to a stereo mode, based on the determination result in step (b).” Thus, to the extent any reference or combination does not disclose the claimed “encoding each of the first sound signals and the second sound signals and storing the encoded signals in a stereo mode when the recording mode of the received first and second sound signals is set to a stereo mode, based on the determination result in step (b)” limitation, a POSITA would have considered it obvious to modify the reference or combination and would have had a reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior art elements (e.g., modifying a prior art mobile communication

terminal that receives audio signals via two microphones) according to known methods (e.g., according to known methods for encoding and storing sound signals based on determining a recording mode is set to a stereo mode) to yield predictable results (e.g., a mobile communication terminal that encodes received audio signals in a stereo mode based on determining that a recording mode is set to a stereo mode).

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., encoding each of two audio signals and storing in a stereo mode) to improve similar devices (e.g., to improve a similar mobile communication terminal with two microphones for receiving two sound signals) or methods in the same way (e.g., to provide a mobile communication terminal with the capability of encoding and storing two received audio signals in a stereo mode).

As another example, a POSITA would have understood the modification or combination to amount the simple substitution of one known element (e.g., implementing a mobile communication terminal that encodes and stores audio) to another (e.g., encoding each of two audio signals and storing in a stereo mode) to obtain predictable results (e.g., a mobile communication terminal that encodes and stores two audio signals when a recording mode is set to a stereo mode).

As another example, a POSITA would have understood the modification or combination to amount to applying a known technique (e.g., techniques for encoding each of two audio signals and storing the encoded signals in a stereo mode) to a known device or method (e.g., another mobile communication terminal that receives two audio signals) that is ready for improvement (e.g., as it includes the necessary hardware and software components) to yield predictable results

(e.g., communication terminal that encodes and stores two audio signals when a recording mode is set to a stereo mode).

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

xiv. “canceling the noise of the first sound signal based on the noise of the second sound signals” (Claim 19)

The asserted claims recite “canceling the noise of the first sound signal based on the noise of the second sound signals.” This feature was well-known in the prior art, at least under Hermes’s apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures. *See, e.g., Konchitsky, Fazzio, Chen, Marantz PMD671 Device.*

If any prior art references or combination of references is found not to disclose or render obvious the “canceling the noise of the first sound signal based on the noise of the second sound signals” limitation, a POSITA would have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that to enable a mobile communication terminal to perform noise-cancelation of received sound signal, it would be advantageous to provide

“canceling the noise of the first sound signal based on the noise of the second sound signals.” Thus, to the extent any reference or combination does not disclose the claimed “canceling the noise of the first sound signal based on the noise of the second sound signals” limitation, a POSITA would have considered it obvious to modify the reference or combination and would have had a reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior art elements (e.g., modifying a prior art mobile communication terminal that receives two audio signals) according to known methods (e.g., according to known methods for two-mic noise-cancelation) to yield predictable results (e.g., a mobile communication terminal that cancels noise of one sound signal based on a second sound signal).

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., techniques for noise cancelation) to improve similar devices (e.g., to improve a similar mobile communication terminal that records audio signals) or methods in the same way (e.g., to provide a mobile communication terminal with the capability to cancel noise of one signal based on a second sound signal).

As another example, a POSITA would have understood the modification or combination to amount to the simple substitution of one known element to another to obtain predictable results (e.g., a mobile communication terminal that cancels noise of one sound signal based on a second sound signal).

As another example, a POSITA would have understood the modification or combination to amount to applying a known technique (e.g., techniques for noise cancelation) to a known device or method (e.g., another mobile communication terminal that receives two audio signals) that is ready for improvement (e.g., as it includes the necessary hardware and software

components) to yield predictable results (e.g., a mobile communication terminal that cancels noise of one sound signal based on a second sound signal).

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

xv. Exemplary Combinations

Below is set forth a list of exemplary combinations of references, on a claim-by-claim basis for the '977 Asserted Claims. In addition to the below combinations, at least two other sets of combinations would render the '977 Asserted Claims obvious: (i) any reference identified as anticipatory in Section III.c above, in combination with the knowledge of a POSITA and (ii) any combination listed below in combination with the knowledge of a POSITA. For each dependent claim, the combinations identified for the claims from which that claim depends may also render the dependent claim obvious. For each combination identified below, a subset of the references in the combination may also render the claim obvious. Samsung reserves the right, as discovery proceeds in this matter, to identify additional combinations.

1. Independent Claim 6

- Kuwabara in view of Konchitsky, Fazzino, and/or Chen
- Konchitsky in view of Kuwabara, Park, and/or Zoom H4 Device

- Fazio in view of Kuwabara, Park, Hyatt, Terlizzi, Yoo, and/or Kim
- Park in view of Hyatt, Konchitsky, Fazio, Chen and/or Zoom H4 Device
- Zoom H4 Device in view of Konchitsky, Fazio, Park and/or Chen
- Sony PCM-D1 Device in view of Konchitsky, Fazio, Park and/or Chen
- Marantz PMD660 Device in view of Konchitsky, Fazio, Park and/or Chen
- Marantz PMD671 Device in view of Konchitsky, Kuwabara, Park, Choi, and/or Chen

2. Dependent Claim 7 (on Claim 6)

In addition to the combinations listed above for claim 6, the following exemplary combinations apply to claim 7:

- Kuwabara in view of Konchitsky, Fazio, and/or Chen
- Konchitsky in view of Kuwabara, Park, and/or Zoom H4 Device
- Fazio in view of Kuwabara, Park, Hyatt, Terlizzi, Yoo, and/or Kim
- Park in view of Hyatt, Konchitsky, Fazio, and/or Chen
- Zoom H4 Device in view of Konchitsky, Fazio, Park and/or Chen
- Sony PCM-D1 Device in view of Konchitsky, Fazio, Park and/or Chen
- Marantz PMD660 Device in view of Konchitsky, Fazio, Park and/or Chen
- Marantz PMD671 Device in view of Konchitsky, Kuwabara, Park, Choi, and/or Chen

3. Dependent Claim 8 (on Claim 6)

In addition to the combinations listed above for claim 6, the following exemplary combinations apply to claim 8:

- Kuwabara in view of Park, Chen, Terlizzi, and/or Zoom H4 Device
- Park in view of Fazio, Chen, Terlizzi, and/or Zoom H4 Device

- Fazio in view of Kuwabara, Park, Hyatt, Terlizzi, Yoo, and/or Kim
- Zoom H4 Device in view of Hyatt, Fazio, Chen, and/or Park
- Sony PCM-D1 Device in view of Hyatt, Fazio, Chen, and/or Park
- Marantz PMD660 Device in view of Hyatt, Fazio, Chen, and/or Park
- Marantz PMD671 Device in view of Konchitsky, Kuwabara, Park, Choi, and/or Chen

4. Dependent Claim 9 (on Claim 6)

In addition to the combinations listed above for claim 6, the following exemplary combinations apply to claim 9:

- Kuwabara in view of Konchitsky, Park, and/or Chen
- Park in view of Hyatt and/or Zoom H4 Device
- Zoom H4 Device in view of Konchitsky, Fazio, Park and/or Chen
- Sony PCM-D1 Device in view of Konchitsky, Fazio, Park and/or Chen
- Marantz PMD660 Device in view of Konchitsky, Fazio, Park and/or Chen
- Marantz PMD671 Device in view of Konchitsky, Kuwabara, Park, Choi, and/or Chen

5. Independent Claim 18

- Kuwabara in view of Park, Chen, Terlizzi, Murray, Marantz PMD671 Device, and/or Zoom H4 Device
- Konchitsky in view of Park, Choi, Kuwabara, Marantz PMD671 Device, and/or Zoom H4 Device.
- Park in view of Kuwabara, Chen, Terlizzi, Murray, Marantz PMD671 Device, and/or Zoom H4 Device
- Choi in view of Kuwabara, Park, Chen, Terlizzi, Murray, Marantz PMD671 Device, and/or Zoom H4 Device
- Zoom H4 Device in view of Kuwabara, Park, Chen, Terlizzi, Marantz PMD671 Device, and/or Murray

- Sony PCM-D1 Device in view of Kuwabara, Park, Chen, Terlizzi, Marantz PMD671 Device, and/or Murray
- Marantz PMD660 Device in view of Konchitsky, Kuwabara, Park, Choi, Chen, and/or Marantz PMD671 Device
- Marantz PMD671 Device in view of Konchitsky, Kuwabara, Park, Choi, and/or PMD660 Device

6. Dependent Claim 19 (on Claim 18)

In addition to the combinations listed above for claim 18, the following exemplary combinations apply to claim 19:

- Kuwabara in view of Park, Choi, Chen, Terlizzi, Murray, and/or Zoom H4 Device
- Park in view of Kuwabara, Choi, Chen, Terlizzi, Murray, and/or Zoom H4 Device
- Choi in view of Kuwabara, Park, Chen, Terlizzi, Murray, and/or Zoom H4 Device
- Zoom H4 Device in view of Kuwabara, Park, Choi, Terlizzi, and/or Marantz PMD671 Device
- Sony PCM-D1 Device in view of Kuwabara, Park, Choi, Terlizzi, and/or Marantz PMD671 Device
- Marantz PMD660 Device in view of Kuwabara, Park, Choi, Terlizzi, and/or Marantz PMD671 Device
- Marantz PMD671 Device in view of Konchitsky, Kuwabara, Park, Choi, and/or Chen

e. Invalidity Under 35 U.S.C. § 112

Samsung provides below its preliminary invalidity contentions under 35 U.S.C. § 112.

i. Legal Background Regarding the Indefiniteness, Enablement, and Written Description Requirements

See Section II.d.i, above, for a discussion of the legal background regarding the indefiniteness, enablement, and written description requirements.

ii. Invalidity Grounds Under 35 U.S.C. § 112

Below are set forth invalidity grounds under § 112, both for the individual '977 Asserted Claims and for the claims of the '977 Patent as a whole. By identifying the below claim language, Samsung does not imply that the identified language should be given patentable weight for purposes of 35 U.S.C. §§ 102, 103.

1. Indefiniteness

The below claim language fails to comport with the requirements of § 112, ¶ 2 and/or § 112, ¶ 6 because a POSITA would not have been able to determine the scope of the language with reasonable certainty when reading the claims in light of the specification and the prosecution history:

- “a voice and noise processor for bypassing and outputting sound signals received through the first microphone and sound signals received through the second microphone, or canceling and outputting noise from among the first and second sound signals, respectively” (Claim 6)
- “canceling and outputting noise” (Claim 6)
- “respectively” (Claim 6)
- “a voice recording function processor for encoding signals output from the voice and noise processor” (Claim 6)
- “a controller for controlling operations of the voice and noise processor and the voice recording function processor based on the recording mode of the first and second sound signals” (Claim 6)
- “the recording mode of the first and second sound signals” (Claims 6, 7, 8, 9, and 19)
- “when the recording mode of the first and second sound signals is a mono mode” (Claims 7 and 8)
- “a noise processor for canceling noise from the first and second sound signals” (Claim 7)

- “a signal filtering/combination processor for combining the noise-free first sound signals with the noise-free second sound signals, thereby generating synthesized signals” (Claim 7)
- “a noise processor for bypassing the first and second sound signals without noise cancelation processing” (Claim 8)
- “a signal filtering/combination processor for combining the bypassed first and second sound signals, thereby generating synthesized signals” (Claim 8)
- “(d) encoding the combined signals and storing the encoded signals in a mono mode” (Claim 18)
- “(e) encoding each of the first sound signals and the second sound signals and storing the encoded signals in a stereo mode when the recording mode of the received first and second sound signals is set to a stereo mode, based on the determination result in step (b)” (Claim 18)
- “the recording mode of the received first and second sound signals” (Claim 18)
- “the first sound signals” (Claim 18)
- “the second sound signals” (Claim 18)
- “canceling the noise of the first sound signal based on the noise of the second sound signals” (Claim 19)

2. Invalidity Based on 35 U.S.C. § 112, ¶ 1 (Enablement and Written Description)

Based on Defendants’ present understanding of Plaintiff’s asserted scope of the claims of the ’977 Patent, to the extent such positions can be understood from Plaintiff’s Infringement Contentions, Defendants assert that the Asserted Claims of the ’977 Patent are invalid for failure to provide a written description that enables the full scope of the Asserted Claims based on at least the following claim terms, phrases, or limitations, regardless of priority date:

- “a voice and noise processor for bypassing and outputting sound signals received through the first microphone and sound signals received through the second microphone, or canceling and outputting noise from among the first and second sound signals, respectively” (Claim 6)
- “a voice recording function processor for encoding signals output from the voice and noise processor” (Claim 6)

- “a controller for controlling operations of the voice and noise processor and the voice recording function processor based on the recording mode of the first and second sound signals” (Claim 6)
- “when the recording mode of the first and second sound signals is a mono mode, the voice and noise processor comprises a noise processor for canceling noise from the first and second sound signals” (Claim 7)
- “when the recording mode of the first and second sound signals is a mono mode, the voice and noise processor comprises . . . a signal filtering/combination processor for combining the noise-free first sound signals with the noise-free second sound signals, thereby generating synthesized signals” (Claim 7)
- “when the recording mode of the first and second sound signals is a mono mode, the voice and noise processor comprises a noise processor for bypassing the first and second sound signals without noise cancelation processing” (Claim 8)
- “when the recording mode of the first and second sound signals is a mono mode, the voice and noise processor comprises . . . a signal filtering/combination processor for combining the bypassed first and second sound signals, thereby generating synthesized signals” (Claim 8)
- “(d) encoding the combined signals and storing the encoded signals in a mono mode” (Claim 18)
- “(e) encoding each of the first sound signals and the second sound signals and storing the encoded signals in a stereo mode when the recording mode of the received first and second sound signals is set to a stereo mode, based on the determination result in step (b)” (Claim 18)
- “canceling the noise of the first sound signal based on the noise of the second sound signals” (Claim 19)

IV. '720 Patent

a. Priority Date

The application that issued as the '720 Patent was filed on May 8, 2012, claiming priority to PCT/KR2006/002302 (“'302 PCT”), which was filed on June 15, 2006. In its P.R. 3-1(e) disclosures for the '720 Patent, Hermes states: “The '720 Patent issued from U.S. patent application Serial Number 13/466,699 filed on May 8, 2012, claims priority to U.S. patent

application No. 11/911,277 filed on June 15, 2006.” For the reasons discussed below, the ’720 Asserted Claims are not entitled to an earlier effective filing date than May 8, 2012.

Independent claim 8 (from which claims 9, 10, and 11 depend) and independent claim 13 (from which claims 14 and 15 depend) recite “an idle state.” The ’720 Patent, Cls. 8, 13. The ’302 PCT, however, does not include any disclosure of “an idle state.” At best, the ’302 PCT only discloses “an idle mode.” *See, e.g.*, ’302 PCT, 9:20–24, 10:18–11:5, 17:23–24, 18:12–13. The concept of “an idle state” was new matter added at the time of filing of the application that issued as the ’720 Patent – May 8, 2012.

For purposes of these Invalidity Contentions only, Samsung has assumed that the priority date of the ’720 Patent is May 8, 2012. Samsung reserves the right to supplement its Invalidity Contentions to the extent that Hermes produces evidence to show that the ’720 Patent is entitled to a different priority date.

b. Terms Construed Under 35 U.S.C. § 112, ¶6 (Means Plus Function)

The following terms of the ’720 Patent, as well as their analogues in dependent claims, may be construed pursuant to 35 U.S.C. § 112, ¶ 6, which allows for drafting claims that recite means or a step for performing a specified function without the recital of structure material, or acts in support thereof.⁵ In such cases, “the claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.” 35 U.S.C. § 112, ¶ 6. If a claim does not recite the term “means,” there is a rebuttable presumption that § 112, ¶ 6 does not apply. *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015). But, this presumption may be overcome where the claims recite non-structural generic placeholders that invoke § 112, ¶ 6. *See, e.g., WSOU Investments LLC v. Google LLC*, 2022-

⁵ Samsung asserts that at least claim 8 of the ’720 Patent is invalid under § 112. *See* Section IV.e.

1064, 2023 WL 6531525 (Fed Cir. Oct. 6 2023). Thus, the essential inquiry is not merely the presence or absence of the word ‘means,’ but rather “whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.” *Id.* at *3. One such generic placeholder is the term “unit for.” *See* MPEP § 2181; *Optis Wireless Tech., LLC v. Huawei Device Co.*, No. 2:17-cv-123-JRG-RSP, 2018 WL 476054, at *40-42 (E.D. Tex. Jan. 18, 2018) (finding the term “processing unit” to be governed by § 112, ¶ 6 because the corresponding specification “includ[es] a wide range of hardware . . . , hardware and software, or software modules executed by a processor or directly in hardware”). Under 35 U.S.C. § 112 ¶ 2 and ¶ 6, a means-plus-function clause is indefinite if a person of ordinary skill in the art would be unable to recognize the structure in the specification and associate it with the corresponding function in the claim. *See, e.g., Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1312 (Fed. Cir. 2012).

i. “control unit”

Limitation (Function Underlined)	Corresponding Structure, Acts, or Materials
<p>Claim 8: “<u>control unit configured to select application programs from application programs installed in the mobile terminal, based on an input from the user interface, wherein each of the selected application programs is allocated to one of the screens so that the screens present shortcut icons of the application programs allocated thereto;</u> <u>display, in the idle state, one of the screens as the idle screen on the display unit of the mobile terminal, wherein the currently displayed idle screen presents the shortcut icons corresponding to the application programs allocated thereto;</u>”</p>	<p>To the extent there is corresponding structure, acts, or materials, it is described at ’720 Patent, 4:10–21, 5:21–24. Defendants reserve the right to argue that there is insufficient structure disclosed and that the claims are therefore invalid as indefinite.</p>

<u>display, in response to an idle screen switch request from the user interface, a next one of the screens on the display unit according to an order of the screens, and set a currently displayed screen as the idle screen to be displayed in the idle state”</u>	
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c. Prior Art References⁶

Samsung identifies the following prior art that is now known to Samsung to anticipate or render obvious the '720 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), (e), and/or (g), either expressly or inherently as understood by a POSITA, or based on Hermes’s asserted interpretation of the claims.

i. Prior Art Patents and Patent Publications

The following patents and publications are prior art to the '720 Asserted Claims under 35 U.S.C. §§ 102(a), (b), (e), and/or (g). Attached are charts demonstrating how these references disclose and/or suggest the limitations of the '720 Asserted Claims. Insofar as Hermes contends that any of the references listed below are not enabling, then the '720 Asserted Claims are invalid for lack of enablement. Samsung’s investigation into prior art patents and patent publications is ongoing, and Samsung reserves the right to identify additional references.

Ex.	Patent / Pub. Number	Country of Origin	Filing Date	Pub. / Issue Date
C-01	Korean Publication No. 2003-0083896A (“Cho”)	Korea	April 23, 2002	November 1, 2003
C-02	U.S. Patent No. 7,231,229B1 (“Hawkins”)	United States	June 17, 2003	June 12, 2007
C-03	Japanese Publication No. 2001-312346A (“Hoshi”)	Japan	April 27, 2000	November 9, 2001
C-04	Korean Publication No. 2004-0044695A (“Kim ’695”)	Korea	November 21, 2002	May 31, 2004

⁶ To the extent a reference is not in English, the corresponding chart refers to a machine and/or certified human translation of the reference, which is produced herewith in accordance with P. R. 3-4(b). Samsung reserves the right to rely on additional certified human translations of references that it obtains in the course of its investigation.

C-05	U.S. Publication No. 2006/0236266A1 ("Majava")	United States	March 18, 2005	October 19, 2006
C-06	U.S. Publication No. 2007/0094596A1 ("Nielsen")	United States	October 25, 2005	April 26, 2007
C-07	U.S. Publication No. 2002/0041292A1 ("Son")	United States	October 2, 2001	April 11, 2002
C-08	Japanese Publication No. 2003-198705A ("Urano")	Japan	December 28, 2001	July 11, 2003
C-09	U.S. Publication No. 2006/0030370A1 ("Wardimon")	United States	August 5, 2004	February 9, 2006
C-10	International Publication No. WO2006131780A1 ("Yliranta")	International Bureau	June 10, 2005	December 14, 2006
C-11	International Publication No. WO2007/145387A1 ("Park '387")	Korea	June 15, 2006	December 21, 2007
C-12	Korean Publication No. 2012-0029722A ("Lee '722")	Korea	September 17, 2010	March 27, 2012
C-13	Korean Publication No. 2010-0002423A ("Yoon")	Korea	June 30, 2008	January 7, 2010

ii. Prior Art Systems

The following systems are prior art to the '720 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), and/or (g). Attached are charts demonstrating how these references disclose and/or suggest the limitations of the '720 Asserted Claims. Each reference indicated with an asterisk ("*") anticipates certain claims of the '720 Patent. Samsung's further investigation and/or subsequent discovery from Hermes or third parties with knowledge regarding prior art systems may reveal additional relevant prior art systems and/or further information regarding the systems identified below, or other relevant prior art systems. Samsung reserves the right to supplement these Invalidity Contentions based on subsequent investigation and discovery, including from third parties.

Ex.	System	Short Name	Public Availability Date
C-14	ShellToys Cool Desk	Cool Desk	No later than January 7, 2003
C-15	Microsoft PowerToys for Windows XP - Virtual Desktop Manager	PowerToys	No later than November 2, 2001
C-16	Handspring Treo 270 Communicator*	Treo 270 Communicator*	No later than July 15, 2002
C-17	XDESK	XDESK	No later than August 9, 2002
C-18	Samsung Galaxy SII*	Galaxy SII*	No later than April 30, 2011

1. Cool Desk

Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Cool Desk. Cool Desk qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than January 7, 2003 or (2) reduced to practice in the United States no later than January 7, 2003 without being abandoned, suppressed, or concealed. Cool Desk was in public use or on sale in the United States and/or reduced to practice in the United States by or before January 7, 2003. For example, Cool Desk was made available for public download on the world wide web by ShellToys Inc. by January 7, 2003. Samsung reserves the right to rely on other sources of evidence identified as discovery and Samsung's investigation progress.

2. PowerToys

Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to PowerToys. PowerToys qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than November 2, 2001 or (2) reduced to practice in the United States no later than November 2, 2001 without being abandoned, suppressed, or concealed. PowerToys was in public use or on sale in the United States and/or reduced to practice in the United States by or before November 2, 2001.

For example, PowerToys was made available for public download on the world wide web by Microsoft Corp. by November 2, 2001. Samsung reserves the right to rely on other sources of evidence identified as discovery and Samsung's investigation progress.

3. Treo 270 Communicator

Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Treo 270 Communicator. Treo 270 Communicator qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than July 15, 2002 or (2) reduced to practice in the United States no later than July 15, 2002 without being abandoned, suppressed, or concealed. Treo 270 Communicator was in public use or on sale in the United States and/or reduced to practice in the United States by or before July 15, 2002. For example, Treo 270 Communicator was sold to the public by Handspring, Inc. by July 15, 2002. Samsung reserves the right to rely on other sources of evidence identified as discovery and Samsung's investigation progress.

4. XDESK

Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to XDESK. XDESK qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than August 9, 2002 or (2) reduced to practice in the United States no later than August 9, 2002 without being abandoned, suppressed, or concealed. XDESK was in public use or on sale in the United States and/or reduced to practice in the United States by or before August 9, 2002. For example, XDESK was made available for public download on the world wide web by XDESKSoftware. by August 9, 2002. Samsung reserves the right to rely on other sources of evidence identified as discovery and Samsung's investigation progress.

5. Galaxy SII

Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Galaxy SII. Galaxy SII qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than April 30, 2011 or (2) reduced to practice in the United States no later than April 30, 2011 without being abandoned, suppressed, or concealed. Galaxy SII was in public use or on sale in the United States and/or reduced to practice in the United States by or before April 30, 2011. For example, Galaxy SII was sold to the public by Samsung by April 30, 2011. Samsung reserves the right to rely on other sources of evidence identified as discovery and Samsung's investigation progress.

Samsung hereby further discloses all prior art systems that are described in the disclosure for the patent and non-patent prior art references listed above, as well as any systems that were developed, manufactured, offered for sale, and/or sold by any of the applicants, named inventors, assignees, owners, and/or authors of the patent and non-patent prior art references listed above.

d. Obviousness

Each of the limitations set forth below were well-known in the prior art, for at least the reasons described. Samsung reserves the right, as discovery proceeds in this matter, to identify additional limitations as being well-known in the prior art or identify additional evidence in support of the contentions set forth below.

i. **“an idle screen to be displayed in an idle state in a mobile terminal”**

The asserted claims recite “an idle screen to be displayed in an idle state in a mobile terminal.” This feature was well-known in the prior art, at least under Hermes's apparent interpretation in its infringement contentions, as shown in the charts accompanying the

above-referenced disclosures (*see, e.g.*, Majava, Hoshi, Kim '695, Nielsen, Urano, Wardimon, Yliranta, Yoon) and in view of the following background references. For example:

- U.S. Publication No. 2001/0053708 A1 (“Sugiyama”) discloses that “in a waiting state, the portable telephone 1 makes the display 5 display a **waiting screen 100** which is the uppermost hierarchy of menu screen.” Sugiyama at [0042].
- U.S. Publication No. 2002/0123368 A1 (“Yamadera”) discloses that “[i]n FIG. 4, when the pocket telephone is powered on, a **standby screen 30** first appears as the initial screen on the display screen 1 (FIG. 1).” Yamadera at [0074].
- U.S. Publication No. 2003/0038825 A1 (“Wen”) discloses that “FIG. 1A exemplifies **the main screen 100** of a user-friendly application program such as the One-Touch OS™. As a user launches the application program under an OS such as the Microsoft Windows, the main screen illustrated in FIG. 1A provides the user with a number of daily functionalities suitable for implementation on a computer.” Wen at [0026].
- U.S. Publication No. 2006/0020904 A1 (“Aaltonen”) discloses that “**the active idle screen 2201** displays icons 2202, 2203, 2204, 2205, 2206 and 2207 that generally correspond to, or are related to, categories of information that is or can be made available to the user or operator.” Aaltonen at [0106].
- U.S. Publication No. 2006/0030371 A1 (“Tanaka”) discloses that “[w]hen the mobile phone is turned on, **the receipt-waiting screen** shown in part (A) of FIG. 3 is displayed in the LCD unit (step a), and whether the menu key (the key 51 shown in FIG. 1) is pressed or not is detected (step b).” Tanaka at [0043].
- U.S. Publication No. 2006/0095916 A1 (“Nishida”) discloses that “the mobile phone terminal is further capable of activating an idle screen program which displays **an idle screen** in a state in which communication is being awaited, and the program management unit, when activating another program in a state in which the idle screen program is stored in the execution state storage unit as a program which is being activated, along with storing in the restart information storage unit restart information for restarting the idle screen program which is being activated, also starts the another program in the program execution unit after terminating the idle screen program.” Nishida at [0018].
- U.S. Publication No. 2007/0035513 A1 (“Sherrard”) discloses that “after initial power up, a timeout occurs and the communication device displays **pre-activation idle screen 310**.” Sherrard at [0042].
- U.S. Publication No. 2007/0257097 A1 (“Nurmela”) discloses that “[i]nitially, the mobile terminal has backlight switched off, and a screen such as **an idle screen 660** is displayed.” Nurmela at [0063].
- Korean Publication No. 2005-0014929 (“Kim '929”) discloses that “In the idle state, the microprocessor (214) displays one **default idle screen** to the LCD display unit (206)

depending on the idle screen settings program of the program memory (302) before the user configures it (S302).” Kim 929 at p. 5.

If any prior art references or combination of references is found not to disclose or render obvious the “an idle screen to be displayed in an idle state in a mobile terminal” limitation, a POSITA would have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that to enable a mobile terminal to wait for user input on a screen, it would be advantageous to provide “an idle screen to be displayed in an idle state in a mobile terminal.” Thus, to the extent any reference or combination does not disclose the claimed “an idle screen to be displayed in an idle state in a mobile terminal” limitation, a POSITA would have considered it obvious to modify the reference or combination and would have had a reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., implementing a mobile terminal with an idle screen displayed in an idle state) to improve similar devices (e.g., to improve a mobile terminal without an idle screen displayed in an idle state for a better user experience) or methods in the same way (e.g., to provide a mobile terminal with an idle screen displayed in an idle state to facilitate user interactions with the mobile terminal).

As another example, a POSITA would have understood the modification or combination to amount to applying a known technique (e.g., implementing a mobile terminal with an idle screen displayed in an idle state) to a known device or method (e.g., a mobile terminal with a screen awaiting user input) that is ready for improvement to yield predictable results (e.g., a mobile terminal including such a screen to be displayed as an idle screen in an idle state).

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

- ii. **“the currently displayed idle screen presents the shortcut icons corresponding to the application programs allocated thereto”; “the displayed idle screen presents the shortcut icons corresponding to the application programs allocated thereto”**

The asserted claims recite “the currently displayed idle screen presents the shortcut icons corresponding to the application programs allocated thereto” or “the displayed idle screen presents the shortcut icons corresponding to the application programs allocated thereto.” This feature was well-known in the prior art, at least under Hermes’s apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures (*see, e.g.*, Yliranta, Majava, Hoshi, Yoon) and in view of the following background references.

For example:

- U.S. Publication No. 2006/0020904 A1 (“Aaltonen”) discloses that “FIGS. 22A-22I are illustrations of screen shots of an active idle state of one embodiment of a user interface incorporating features of the present invention,” and that “[t]he icons 2202-2207 include an icon or image that is representative of the underlying application or category.” Aaltonen at [0040], [0108].
- WO 2005/104572 A1 (“Lee ’572”) discloses that “resources stored in a portable mobile communication device, which are frequently used by a user, can be displayed on an idle

screen in the form of an icon as a divided screen, a screen of a sliding mode or in explicit real time.” Lee at 5:5–8; see also id.at 8:21–24.

- EP 1104151 A2 (“Pirskanen”) discloses that “[t]he application window (when viewed as a grid as in Fig. 3A) always starts up showing some first number (e.g., eight) available applications. Each application has a separate icon and optional number, the latter allowing the user to use a short cut to select a particular application.” Pirskanen at [0073].
- KR 2005-0080382 A (“Park ’382”) discloses that “FIG. 4 shows an example of a standby screen composed of the main menu area A and the additional menu area B,” where “[t]he additional menu area (B) is for a swap service hot link, a personalization function, and the like, and may be configured in an icon form for directly accessing the corresponding menu. By selecting an icon displayed in the additional menu area B, a VM application frequently used by a user, such as a WAP page shortcut or a game, can be executed. In addition, the icon displayed in the second additional menu area B may be updated, added, or deleted according to the development of a new application.” Park ’382 at p.6.

If any prior art references or combination of references is found not to disclose or render obvious the “the displayed idle screen presents the shortcut icons corresponding to the application programs allocated thereto” limitation, a POSITA would have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that to enable a user to easily launch various applications on a mobile terminal, it would be advantageous to provide “the displayed idle screen presents the shortcut icons corresponding to the application programs allocated thereto.” Thus, to the extent any reference or combination does not disclose the claimed “the displayed idle screen presents the shortcut icons corresponding to the application programs allocated thereto” limitation, a POSITA would have considered it obvious to modify the reference or combination and would have had a reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior art elements (e.g., modifying a prior art mobile terminal with an idle screen without application shortcut icons, but is presented with, for example, other shortcut

options on the idle screen; or modifying a prior art mobile terminal with application shortcut icons on a menu screen) according to known methods (e.g., according to known methods for presenting application shortcut icons on an idle screen) to yield predictable results (e.g., presenting application shortcut icons on an idle screen).

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., implementing a mobile terminal with a displayed idle screen presenting application shortcut icons) to improve similar devices (e.g., to improve a mobile terminal having an idle screen without application shortcut icons, or a mobile terminal having a menu screen with application shortcuts) or methods in the same way (e.g., to provide a mobile device with the capability to allow users to launch mobile applications on an idle screen).

As another example, a POSITA would have understood the modification or combination to amount to the simple substitution of one known element (e.g., a mobile terminal displaying an idle screen presenting application shortcut icons) to another (e.g., a mobile terminal displaying an idle screen presenting application shortcut text, or an idle screen presenting mobile terminal functions or other operating options for selection by the user) to obtain predictable results (e.g., a mobile terminal including a screen for presenting application shortcut icons to be displayed as an idle screen in an idle state).

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

iii. “set a currently displayed screen as the idle screen to be displayed in the idle state”; “setting a currently displayed screen as the idle screen to be displayed in the idle state”

The asserted claims recite “set a currently displayed screen as the idle screen to be displayed in the idle state” or “setting a currently displayed screen as the idle screen to be displayed in the idle state.” This feature was well-known in the prior art, at least under Hermes’s apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures. *See, e.g.,* Majava, Hoshi, Cho, Kim ’695, Wardimon, Park ’387:

If any prior art references or combination of references is found not to disclose or render obvious the “setting a currently displayed screen as the idle screen to be displayed in the idle state” limitation, a POSITA would have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that to enable a user to designate what is displayed on an idle screen using a screen that is currently displayed, it would be advantageous to provide “setting a currently displayed screen as the idle screen to be displayed in the idle state.” Thus, to the extent any reference or combination does not disclose the claimed “setting a currently displayed screen as the idle screen to be displayed in the idle state” limitation, a POSITA would have considered it obvious to modify the reference or combination and would have had a reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior art elements (e.g., modifying a prior art mobile terminal having

multiple screens that a user may want to quickly access as an idle screen) according to known methods (e.g., according to known methods for setting the currently displayed screen as an idle screen) to yield predictable results (e.g., to allow user to choose the currently displayed screen as an idle screen).

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., implementing a mobile terminal with the ability to accept user designation of the currently displayed screen as an idle screen) to improve similar devices (e.g., to improve a mobile terminal by providing an idle screen) or methods in the same way (e.g., to provide a mobile terminal with the capability to change an idle screen based on user designation of the currently displayed screen as an idle screen).

As another example, a POSITA would have understood the modification or combination to amount the simple substitution of one known element (e.g., a mobile terminal set to displaying an idle screen) to another (e.g., a mobile terminal set to displaying the currently displayed screen as an idle screen based on user input) to obtain predictable results (e.g., a mobile terminal having the capability to change an idle screen based on user designation of the currently displayed screen as an idle screen).

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

- iv. **“wherein the control unit is configured to display, on the display unit, the idle screen with indicators corresponding to the screens, and wherein an indicator corresponding to the screen, which is set as the idle screen, is displayed distinguishably from the rest of the indicators”;** **“the idle screen is displayed on the display unit with indicators corresponding to the screens and an indicator corresponding to the screen, which is set as the idle screen, is displayed distinguishably from the rest of the indicators”**

The asserted claims recite “wherein the control unit is configured to display, on the display unit, the idle screen with indicators corresponding to the screens, and wherein an indicator corresponding to the screen, which is set as the idle screen, is displayed distinguishably from the rest of the indicators” or “the idle screen is displayed on the display unit with indicators corresponding to the screens and an indicator corresponding to the screen, which is set as the idle screen, is displayed distinguishably from the rest of the indicators.” Such indicators were well-known in the prior art, at least under Hermes’s apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures. *See, e.g.,* Son Hawkins, Lee ’772:

If any prior art references or combination of references is found not to disclose or render obvious “the idle screen is displayed on the display unit with indicators corresponding to the screens and an indicator corresponding to the screen, which is set as the idle screen, is displayed distinguishably from the rest of the indicators” limitation, a POSITA would have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that to enable a user to easily switch between displaying a plurality screens on a mobile terminal and to distinguish between the plurality of screens, it would be advantageous to provide “the idle screen is displayed on the display unit with indicators corresponding to the screens and an indicator corresponding to the screen, which is set as the idle screen, is displayed distinguishably from the rest of the indicators.” Thus, to the extent any reference or combination does not disclose the claimed “the idle screen is displayed on the display unit with indicators corresponding to the screens and an indicator corresponding to the screen, which his set as the idle screen, is displayed distinguishably from the rest of the indicators” limitation, a POSITA would have considered it obvious to modify the reference or combination and would have had a reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior art elements (e.g., modifying a prior art mobile terminal having a plurality of screens that does not provide indicators for the plurality of screens) according to known methods (e.g., according to known methods for identifying the plurality of screens using indicators) to yield predictable results (e.g., to allow user to easily identify the different screens among the plurality of screens).

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., implementing a mobile terminal with indicators to identify a plurality of screens) to improve similar devices (e.g., to improve a mobile terminal providing a plurality of screens) or methods in the same way (e.g., to provide a mobile terminal with indicators to identify a plurality of screens).

As another example, a POSITA would have understood the modification or combination to amount to applying a known technique (e.g., implementing a mobile terminal with indicators

to identify a plurality of screens) to a known device or method (e.g., to a mobile terminal that does not display such indicators) that is ready for improvement (e.g., as it includes the necessary hardware and software components) to yield predictable results (e.g., a mobile terminal including indicators for the plurality of screens).

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

- v. **“the idle screen switch request is a leftward or rightward movement request”; “the idle screen switch request indicates whether the screens are switched either in an ascending or in a descending order”**

The asserted claims recite “the idle screen switch request is a leftward or rightward movement request.” The asserted claims also recite “the idle screen switch request indicates whether the screens are switched either in an ascending or in a descending order.” Such screen switch requests were well-known in the prior art, at least under Hermes’s apparent interpretation in its infringement contentions, as shown in the charts accompanying the above reference disclosures. *See, e.g.,* Son, Hoshi, Hawkins, Lee ’722:

If any prior art references or combination of references is found not to disclose or render obvious “the idle screen switch request is a leftward or rightward movement request” or “the idle

screen switch request indicates whether the screens are switched either in an ascending or in a descending order” limitation, a POSITA would have been motivated to modify it or combine it with the teachings of another reference for a variety of reasons and would have had a reasonable expectation of success in doing so.

A POSITA would have understood that to enable a user to easily switch between displaying a plurality screens on a mobile terminal, it would be advantageous to provide “the idle screen switch request is a leftward or rightward movement request” or “the idle screen switch request indicates whether the screens are switched either in an ascending or in a descending order.” Thus, to the extent any reference or combination does not disclose the claimed “the idle screen switch request is a leftward or rightward movement request” or “the idle screen switch request indicates whether the screens are switched either in an ascending or in a descending order” limitation, a POSITA would have considered it obvious to modify the reference or combination and would have had a reasonable expectation of success in doing so.

For example, a POSITA would have considered the modification or combination to amount to combining prior art elements (e.g., modifying a prior art mobile terminal having a plurality of screens that does not provide a screen switch request that is a leftward or rightward movement, or indicating an ascending or descending order) according to known methods (e.g., according to known methods for switching screens based on a screen switch request that is a leftward or rightward movement, or indicating an ascending or descending order) to yield predictable results (e.g., to allow user to switch between a plurality of screens using such a screen switch request).

As another example, a POSITA would have considered the modification or combination to amount to the use of known techniques (e.g., implementing a mobile terminal with a screen

switch request that is a leftward or rightward movement, or indicating an ascending or descending order to navigate between a plurality of screens) to improve similar devices (e.g., to improve a mobile terminal providing a plurality of screens) or methods in the same way (e.g., to provide a mobile terminal with different screen switch requests).

As another example, a POSITA would have understood the modification or combination to amount to applying a known technique (e.g., implementing a mobile terminal with a screen switch request that is a leftward or rightward movement, or indicating an ascending or descending order to navigate between a plurality of screens) to a known device or method (e.g., to a mobile terminal that responds to a different screen switch request) that is ready for improvement (e.g., as it includes the necessary hardware and software components) to yield predictable results (e.g., a mobile terminal responding to a screen switch request that is a leftward or rightward movement, or indicating an ascending or descending order to navigate between the plurality of screens).

As another example, a POSITA would have considered the combination or modification to amount to using known work in one field of endeavor for use in another device in the same field of endeavor due to design incentives or other market forces.

As another example, a POSITA would have understood the modification or combination to amount to applying an express teaching, suggestion, or motivation in the prior art for their combination.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

vi. Exemplary Combinations

Below is set forth a list of exemplary combinations of references, on a claim-by-claim basis for the '720 Asserted Claims. In addition to the below combinations, at least two other sets

of combinations would render the '720 Asserted Claims obvious: (i) any reference identified as anticipatory in Section IV.c, above, in combination with the knowledge of a POSITA and (ii) any combination listed below in combination with the knowledge of a POSITA. For each dependent claim, the combinations identified for the claims from which that claim depends may also render the dependent claim obvious. For each combination identified below, a subset of the references in the combination may also render the claim obvious. Samsung reserves the right, as discovery proceeds in this matter, to identify additional combinations.

1. Independent Claim 8

- Yliranta in view of Majava and/or Son
- Hawkins in view of Hoshi
- Hawkins in view of Nielsen and/or Pirskanen
- Urano in view of Nielsen and/or Son
- Park '387 in view of Kim '695, Majava, Nielsen, Urano, and/or Wardimon
- Lee in view of Yoon
- PowerToys in view of XDESK, Cool Desk, and/or Hoshi
- Treo 270 Communicator
- Galaxy SII

2. Dependent Claim 9 (on Claim 8)

In addition to the combinations listed above for claim 8, the following exemplary combinations apply to claim 9:

- Yliranta in view of Majava and/or Son
- Hawkins in view of Hoshi and/or Son
- Hawkins in view of Nielsen and/or Pirskanen
- Urano in view of Nielsen and/or Son

- Park '387 in view of Kim '695, Majava, Nielsen, Urano, and/or Wardimon
- Yoon in view of Lee '722
- PowerToys in view of XDESK, Cool Desk, and/or Hoshi
- Treo 270 Communicator in view of Son
- Galaxy SII

3. Dependent Claim 10 (on Claim 8)

In addition to the combinations listed above for claim 8, the following exemplary combinations apply to claim 10:

- Yliranta in view of Majava and/or Son
- Hawkins in view of Hoshi and/or Son
- Hawkins in view of Nielsen and/or Pirskanen
- Urano in view of Nielsen and/or Son
- Park '387 in view of Kim '695, Majava, Nielsen, Urano, and/or Wardimon
- Yoon in view of Lee '722
- PowerToys in view of XDESK, Cool Desk, and/or Hoshi
- Treo 270 Communicator in view of Son
- Galaxy SII

4. Dependent Claim 11 (on Claim 8)

In addition to the combinations listed above for claim 8, the following exemplary combinations apply to claim 11:

- Yliranta in view of Majava and/or Son
- Hawkins in view of Hoshi
- Hawkins in view of Nielsen and/or Pirskanen
- Urano in view of Nielsen and/or Son

- Park '387 in view of Kim '695, Majava, Nielsen, Urano, and/or Wardimon
- Yoon in view of Lee '722
- PowerToys in view of XDESK, Cool Desk, and/or Hoshi
- Treo 270 Communicator
- Galaxy SII

5. Independent Claim 13

- Yliranta in view of Majava and/or Son
- Hawkins in view of Hoshi
- Hawkins in view of Nielsen and/or Pirskanen
- Urano in view of Nielsen and/or Son
- Park '387 in view of Kim '695, Majava, Nielsen, Urano, and/or Wardimon
- Yoon in view of Lee '722
- PowerToys in view of XDESK, Cool Desk, and/or Hoshi
- Treo 270 Communicator
- Galaxy SII

6. Dependent Claim 14 (on Claim 13)

In addition to the combinations listed above for claim 13, the following exemplary combinations apply to claim 14:

- Yliranta in view of Majava and/or Son
- Hawkins in view of Hoshi and/or Son
- Hawkins in view of Nielsen and/or Pirskanen
- Urano in view of Nielsen and/or Son
- Park '387 in view of Kim '695, Majava, Nielsen, Urano, and/or Wardimon
- Yoon in view of Lee '722

- PowerToys in view of XDESK, Cool Desk, and/or Hoshi
- Treo 270 Communicator in view of Son
- Galaxy SII

7. Dependent Claim 15 (on Claim 13)

In addition to the combinations listed above for claim 13, the following exemplary combinations apply to claim 15:

- Yliranta in view of Majava and/or Son
- Hawkins in view of Hoshi
- Hawkins in view of Nielsen and/or Pirskanen
- Urano in view of Nielsen and/or Son
- Park '387 in view of Kim '695, Majava, Nielsen, Urano, and/or Wardimon
- Yoon in view of Lee '722
- PowerToys in view of XDESK, Cool Desk, and/or Hoshi
- Treo 270 Communicator
- Galaxy SII

e. Invalidity Under 35 U.S.C. § 112

Samsung provides below its preliminary invalidity contentions under 35 U.S.C. § 112.

i. Legal Background Regarding the Indefiniteness, Enablement, and Written Description Requirements

See Section II.d.i above, for a discussion of the legal background regarding the indefiniteness, enablement, and written description requirements.

ii. Invalidity Grounds Under 35 U.S.C. § 112

Below are set forth invalidity grounds under § 112, both for the individual '720 Asserted Claims and for the claims of the '720 Patent as a whole. By identifying the below claim language,

Samsung does not imply that the identified language should be given patentable weight for purposes of 35 U.S.C. §§ 102, 103.

1. Indefiniteness Under 35 U.S.C. § 112, ¶ 2

The below claim language fails to comport with the requirements of § 112, ¶ 2, because a POSITA would not have been able to determine the scope of the language with reasonable certainty when reading the claims in light of the specification and the prosecution history:

- “a user interface configured to be operable by a user” (Claims 8–11)
- “a control unit” (Claims 8–11)
- “according to an order of the screens” (Claims 8–11 and 13–15)
- “set a currently displayed screen as the idle screen to be displayed in the idle state” (Claims 8–11)
- “setting a currently displayed screen as the idle screen to be displayed in the idle state” (Claims 13–15)
- “the idle screen switch request indicates whether the screens are switched either in an ascending or in a descending order” (Claim 10)

2. Invalidity Based on 35 U.S.C. § 112, ¶ 1 (Enablement and Written Description)

Based on Defendants’ present understanding of Plaintiff’s asserted scope of the claims of the ’720 Patent, to the extent such positions can be understood from Plaintiff’s Infringement Contentions, Defendants assert that the Asserted Claims of the ’720 Patent are invalid for failure to provide a written description that enables the full scope of the Asserted Claims based on at least the following claim terms, phrases, or limitations, regardless of priority date

- “set a currently displayed screen as the idle screen to be displayed in the idle state” (Claims 8–11)
- “setting a currently displayed screen as the idle screen to be displayed in the idle state” (Claims 13–15)

- “an indicator corresponding to the screen, which is set as the idle screen, is displayed distinguishably from the rest of the indicators” (Claims 8–11 and 13–15)
- “wherein the idle screen switch request is a leftward or rightward movement request” (Claims 9 and 14)
- “the idle screen switch request indicates whether the screens are switched either in an ascending or in a descending order” (Claim 10)

V. Other Relevant References

Defendants hereby cite the following additional references as being relevant to the subject matter claimed in the Asserted Patents. Defendants reserve the right to rely on one or more of the following references as anticipatory references under 35 U.S.C. § 102, as further evidence of obviousness under 35 U.S.C. § 103, as background references demonstrating the state of the art, as a limitation upon the doctrine of equivalents, or for any other purpose. Based on further investigation and discovery, based on positions that Hermes may take regarding the scope of the Asserted Claims, and/or based on the Court’s claim construction, Defendants reserve the right to revise these contentions and to rely on these references to prove the invalidity of the Asserted Patents in a manner consistent with this Court’s Rules and with the Federal Rules of Civil Procedure.

a. Prior Art Patents and Patent Publications

Number	Filing Date	Published/Issued Date
US5124915	May 29, 1990	Jun. 23, 1992
US5371901A	Mar. 4, 1994	Dec. 6, 1994
US5414462A	Feb. 11, 1993	May 9, 1995
US5517419	July 22, 1993	May 14, 1996
US5596494	Nov. 14, 1994	Jan. 21, 1997
US5619565A	Feb. 8, 1996	Apr. 8, 1997
US5678015A	Sept 1, 1995	Oct. 14, 1997
US5768351A	Apr. 9, 1997	Jun. 16, 1998
US5878353	Oct. 15, 1996	Mar. 2, 1999
US5894323	Mar. 22, 1996	Apr. 13, 1999
US5904724	Jan. 19, 1996	May 18, 1999
US5982906A	Nov. 19, 1997	Nov. 9, 1999

US6023241A	Nov. 13, 1998	Feb. 8, 2000
US6167116A	May 7, 1998	Dec. 26, 2000
US6199014B1	Dec. 12, 1997	Mar. 6, 2001
US6232973	Aug. 7, 1998	May 15, 2001
US6363264B1	Feb. 20, 1997	Mar. 26, 2002
US6597378B1	Jan. 18, 2000	Jul. 22, 2003
US6691028	Jun. 03, 2003	Feb. 10, 2004
US6717991B1	Jan. 28, 2000	Apr. 6, 2004
US6246985B1	Aug. 20, 1998	Jun. 12, 2001
US6415034	Aug. 4, 1997	Jul. 2, 2002
US6437797B1	Feb. 18, 1998	Aug. 20, 2002
US6549586B2	Apr. 12, 1999	Apr. 15, 2003
US6639986B2	Jun. 16, 1999	Oct. 28, 2003
US6931201B2	July 31, 2001	Aug. 16, 2005
US7116791B2	Nov. 26, 2003	Oct. 3, 2006
US7158933B2	May 10, 2002	Jan. 2, 2007
US7164620B2	Apr. 7, 2005	Jan. 16, 2007
US7227565B2	Mar. 2, 2004	Jun. 5, 2007
US7350158B2	Feb. 5, 2004	Mar. 25, 2008
US7415120B1	Apr. 14, 1999	Aug. 19, 2008
US7433704B2	Feb. 16, 2005	Oct. 7, 2008
US7464029B2	Jul. 22, 2005	Dec. 9, 2008
US7474959B2	Oct. 08, 2004	Jan. 06, 2009
US7913185B1	Oct. 25, 2001	Mar. 22, 2011
US7918731B2	Jan. 9, 2006	Apr. 5, 2011
US7983907B2	Jul. 22, 2005	Jul. 19, 2011
US8819569B2	Feb. 18, 2005	Aug. 26, 2014
US20010015756A1	Feb. 20, 2001	Aug. 23, 2001
US20010029193A1	Feb. 27, 2001	Oct. 11, 2001
US20010053708	Jun. 15, 2001	Dec. 20, 2001
US20020039203	Sep. 28, 2001	Apr. 4, 2002
US20020049064A1	Oct. 22, 2001	Apr. 25, 2002
US20020123368A1	Aug. 20, 2001	Sep. 5, 2002
US20020135680A1	Mar. 21, 2002	Sep. 26, 2002
US20020191029A1	May 16, 2001	Dec. 19, 2002
US20030004729A1	Jun. 28, 2001	Jan. 2, 2003
US20030027600A1	May 9, 2001	Feb. 6, 2003
US20030038825A1	Aug. 24, 2001	Feb. 27, 2003
US20030045315A1	Aug. 31, 2001	Mar. 6, 2003
US20030100323A1	Aug. 22, 2002	May 29, 2003
US20030105587	Apr. 24, 2001	Jun. 05, 2003
US20040062440A1	Oct. 1, 2002	Apr. 1, 2004
US20040077340A1	Dec. 19, 2001	Apr. 22, 2004
US20040121823A1	Dec. 19, 2002	Jun. 24, 2004
US20040155907A1	Feb. 5, 2004	Aug. 12, 2004

US20040158555A1	Feb. 11, 2003	Aug. 12, 2004
US20040204144A1	Apr. 22, 2003	Oct. 14, 2004
US20040229656	Mar. 26, 2004	Nov. 18, 2004
US20040248588A1	Jun. 9, 2003	Dec. 9, 2004
US20040250217A1	Jan. 22, 2002	Dec. 9, 2004
US20040267443	Apr. 22, 2004	Dec. 30, 2004
US20050026657A1	Jul. 29, 2004	Feb. 3, 2005
US20050110874A1	Nov. 24, 2004	May 26, 2005
US20050130642A1	Dec. 16, 2003	Jun. 16, 2005
US20050156879A1	Jan. 11, 2005	Jul. 21, 2005
US20050243760A1	Apr. 13, 2005	Nov. 3, 2005
US20050261030A1	Jul. 1, 2003	Nov. 24, 2005
US20060020904 A1	Jul. 9, 2004	Jan. 26, 2006
US20060030371A1	Feb. 5, 2002	Oct. 3, 2005
US20060077055	Oct. 6, 2005	Apr. 13, 2006
US20060084477A1	Oct. 18, 2004	Apr. 20, 2006
US20060095916 A1	Oct. 26, 2005	May 4, 2006
US20060099938A1	Nov. 9, 2005	May 11, 2006
US20060190833 A1	Feb. 18, 2005	Aug. 24, 2006
US20060197753A1	Mar. 4, 2005	Sep. 7, 2006
US20060222187A1	Apr. 1, 2005	Oct. 5, 2006
US20060270468A1	May 29, 2006	Nov. 30, 2006
US20060271867A1	May 27, 2005	Nov. 30, 2006
US20060290661A1	Jun. 10, 2005	Dec. 28, 2006
US20070035513A1	Jun. 10, 2005	Feb. 15, 2007
US20070101297A	Oct. 27, 2005	May 3, 2007
US20070230712A1	Aug. 11, 2005	Oct. 4, 2007
US20070155373A1	Jul. 14, 2006	Jul. 5, 2007
US20070257097A1	May 8, 2006	Nov. 8, 2007
US20070271527A1	May 16, 2006	Nov. 22, 2007
US20080013749A1	Apr. 2, 2007	Jan. 17, 2008
US20080155481A1	Dec. 3, 2007	Jun. 26, 2008
US20080207188A1	Feb. 14, 2008	Aug. 28, 2008
US20080233937A1	May 8, 2006	Sep. 25, 2008
US20090089717A1	Sep. 26, 2008	Apr. 2, 2009
US20090259958A1	Apr. 9, 2009	Oct. 15, 2009
US20110057872A1	Aug. 25, 2008	Mar. 10, 2011
US20120046079A1	May 9, 2011	Feb. 23, 2012
US Prov. 60787132	Mar. 29, 2006	
KR100486516B1	Apr. 23, 2002	May 3, 2005
KR100565311B1	Nov. 26, 2003	Jun. 1, 2005
KR100646032B1	Jun. 8, 2005	Nov. 14, 2006
KR100677414B1	Dec. 16, 2004	Feb. 2, 2007
KR100735463	Apr. 19, 2005	July 3, 2007
KR100773442B1	Sep. 26, 2006	Nov. 5, 2007

KR100801650B1	Feb. 13, 2007	Feb. 5, 2008
KR100871246B1	Sep. 9, 2002	Nov. 28, 2008
KR101071843B1	Jun. 12, 2009	Oct. 11, 2011
KR101135074B1	Jun. 30, 2008	Apr. 16, 2012
KR20010002605A	Jun. 16, 1999	Jan. 15, 2001
KR20010081857A	Feb. 19, 2000	Aug. 29, 2001
KR20020086433A	Oct. 24, 2002	Nov. 18, 2002
KR20030015928A	Aug. 18, 2001	Feb. 26, 2003
KR20030083317A	Apr. 20, 2002	Oct. 30, 2003
KR20040014688A	Aug. 10, 2002	Feb. 18, 2004
KR20030063757	Jan. 24, 2002	July 31, 2003
KR20040006882A	Jul. 16, 2002	Jan. 24, 2004
KR20040006883A	Jul. 16, 2002	Jan. 24, 2004
KR20040036368A	Oct. 24, 2002	Apr. 30, 2004
KR20040104210A	June 3, 2003	Dec. 10, 2004
KR20050002111A	Jun. 30, 2003	Jan. 7, 2005
KR20050014929 A	Aug. 1, 2003	Feb. 21, 2005
KR20050015041A	Aug. 1, 2003	Feb. 21, 2005
KR20050033309A	Oct. 6, 2003	Apr. 12, 2005
KR20050080382A	Feb. 9, 2004	Aug. 12, 2005
KR20060003157A	Jul. 5, 2004	Jan. 10, 2006
KR20060035337A	Oct. 22, 2004	Apr. 26, 2006
KR20060076867A	Dec. 29, 2004	Jul. 5, 2006
KR20060042689A	Nov. 10, 2004	May 15, 2006
KR20060110188	Apr. 19, 2005	Oct. 24, 2006
KR20100000070A	Jun. 24, 2008	Jan. 6, 2010
KR20100029611A	Sep. 8, 2008	Mar. 17, 2020
KR20100123003A	May 14, 2009	Nov. 24, 2010
EP1104151A2	Nov. 24, 1999	May 30, 2001
EP1396985B1	Sep. 9, 2003	Jul. 28, 2010
JPH10232135A	Feb. 20, 1997	Sep. 02, 1998
JPH06261244A	Mar. 5, 1993	Sep. 16, 1994
JP3782659B2	Dec. 27, 2000	Jun. 7, 2006
JP2000335580A	May 31, 1999	Dec. 5, 2000
JP2000283782A	Mar. 30, 1999	Dec. 24, 2002
JP2000284885A	Mar. 31, 1999	Oct. 13, 2000
JP2001189999A	Dec. 28, 1999	Jul. 10, 2001
JP2001245352A	Feb. 29, 2000	Sep. 7, 2001
JP2001159537	Dec. 3, 1999	Jun. 12, 2001
JP2002175302	Dec. 7, 2000	Jun. 21, 2002
JP2002300575A	Mar. 29, 2001	Oct. 11, 2002
JP2002082957A	Sep. 08, 2000	Mar. 22, 2002
JP2003016015A	Jun. 27, 2001	Jan. 17, 2003
JP2003032590A	Jul 12, 2001	Jan. 31, 2003
JP2003169110A	Nov. 30, 2001	Jun. 13, 2003

JP2003227730A	Jan. 29, 2003	Aug. 15, 2003
JP2003264614A	Mar. 11, 2002	Sep. 19, 2003
JP2003317193A	Apr. 23, 2002	Nov. 7, 2003
JP2004023535A	Jun. 18, 2002	Jan. 22, 2004
JP2004048560A	Jul. 15, 2002	Feb. 12, 2004
JP2004219293A	Jan. 16, 2003	Aug. 5, 2004
JP2004328310	Apr. 24, 2003	Nov. 18, 2004
JP2004347998A	May 23, 2003	Dec. 9, 2004
JP2004357222A	May 30, 2003	Dec. 16, 2004
JP2005005953A	Jun. 11, 2003	Jan. 06, 2005
JP2005072945A	Aug. 25, 2003	Mar. 17, 2005
JP2005077214A	Aug. 29, 2003	Mar. 24, 2005
JP2005100353A	July 14, 2004	Apr. 14, 2005
JP2005136569A	Oct. 29, 2003	May 26, 2005
JP2005204257A	Jan. 19, 2004	Jul. 28, 2005
JP2005269243A	Mar. 18, 2004	Sep. 29, 2005
JP2006054799A	Aug. 16, 2004	Feb. 23, 2006
JP2007074135A	Sep. 5, 2005	Mar. 22, 2007
JP2007079483A	Sep. 16, 2005	Mar. 29, 2007
JPH0993318A	Sep. 28, 1995	Apr. 4, 1997
WO2001035600A2	Oct. 26, 2000	May 17, 2001
WO2003062917	Jan. 20, 2003	July 31, 2003
WO2004110061A1	Mar. 24, 2004	Dec. 16, 2004
WO2005104572A1	Apr. 20, 2004	Nov. 3, 2005
WO2006126641A1	May 25, 2006	Nov. 30, 2006
EP1162435A2	Apr. 18, 2001	Jun. 17, 2006

b. Prior Art Non-Patent Publications

Author/Publisher	Title	Publication Date
Barrere	A Compact Sensor Array for Blind Separation of Sources	May 2002
Buchner	Simultaneous Localization of Multiple Sound Sources Using Blind Adaptive MIMO Filtering	2005
Flynn	A Comparison of Decision-Making Processes in Directional Systems	Mar. 13, 2006
Giannakopoulos	A Practical, Real-Time Speech-Driven Home Automation Front-end	May 2005
Gustafsson	Speech Enhancement for Mobile Communications	Feb. 2000
Hansen	Integrating the Web and the World Contextual Trails on the Move	Aug. 9, 2004
Hu	A Robust Adaptive Speech Enhancement System for Vehicular	Aug. 2006

Klasco	The Noise Killers (Stereo Review)	Dec. 1994
Lu	An Overview of Problems in Image-Based Location Awareness and Navigation	Jan. 18, 2004
Maj	SVD-Based Optimal Filtering for Noise Reduction in Dual Microphone Hearing Aids: A Real Time Implementation and Perceptual Evaluation	Sep. 2005
McCurley	Geospatial Mapping and Navigation of the Web	Apr. 1, 2001
Naaman	Automatic Organization for Digital Photographs with Geographics Coordinates	Jun. 11, 2004
Ricketts	Digital Hearing Aids: Current "State-of-the-Art"	Aug. 2001
Spriet	Robustness Analysis of Multichannel Wiener Filtering and Generalized Sidelobe Cancellation for Multimicrophone Noise Reduction in Hearing Aid Applications	Jul. 2005
Toyama et. al	Geographic location tags on digital images	Nov. 2003
Yeh	Searching the Web with Mobile Images for Location Recognition	Jul. 2004
JEITA	Exchangeable Image File Format for Digital Still Cameras - Exif Version 2.2	Apr. 2002
Geocaching	Irfanview And Exif	Dec. 2003
-	Marantz PMD660 Specification	No later than Dec. 31, 2005
-	Marantz PMD671 User Guide	No later than Feb. 9, 2006
-	Sony PCM-D1 Brochure	No later than Oct. 11, 2005
-	Sony PCM-D1 Operating Guide	No later than Dec. 31, 2005
-	Zoom Handy Recorder H4 - Operation Manual	No later than Dec. 7, 2006

c. Prior Art Systems

System	Public Availability Date	Short Name
Edirol by Roland R-09	Nov. 2006	Edirol R-09
LG Optimus 2X / P990	Apr. 2001	LG P990
Marantz PMD Series	No later than Feb. 8, 2006	Marantz PMD Series
Nokia N93	Jul. 2006	Nokia N93
Nokia N95	Mar., 2007	Nokia N95
Oticon Syncro	Mar. 2006	Oticon Syncro
Exif Files	Apr. 2002	Exif Files

VI. Document Production Accompanying Invalidity Contentions

Documents produced in accord with Patent Local Rule 3-4 are being produced to Hermes under a separate letter and will be made available for inspection. As discovery progresses and additional information is revealed concerning, for example, Hermes's allegations, Samsung reserves the right to produce and rely on additional documents relating to its products.

VII. Other Reservations and Explanations

These Invalidity Conditions and the documents that Samsung produces are provisional and subject to further revision. Nothing in these contentions constitutes an admission concerning the priority date, conception date, or date of reduction to practice of the Asserted Claims. If the Court finds that Hermes is entitled to an earlier priority date, or Hermes argues for an earlier priority date, Samsung reserves the right to serve supplemental invalidity contentions.

For prior art patents and prior art publications identified in these Invalidity Contentions, Samsung reserves the right to rely on the public use, offer for sale, sale, and/or actual products embodying the methods and systems described therein uncovered during discovery. Samsung reserves the right to rely upon any related patents and patent applications, foreign patent counterparts and foreign patent applications of U.S. patents and patent applications identified in these Invalidity Contentions, and U.S. and other foreign counterparts of foreign patents and foreign patent applications identified in these Invalidity Contentions.

The Court has not yet construed any of the terms in the Asserted Patents as part of this case. Accordingly, Samsung's Invalidity Contentions are based in part on Samsung's present understanding of the Asserted Claims and Hermes's apparent interpretation of these claims as reflected in its Infringement Contentions. By including prior art that anticipates or renders

obvious claims based on Hermes's apparent claim interpretations, Samsung is not agreeing that Hermes's claim interpretations are correct.

The accompanying invalidity claim charts provide examples of prior art that discloses, either expressly or inherently, every limitation of certain claims and/or teachings, suggestions and motivations through which a POSITA at the time of the alleged invention would have considered the limitations obvious based on the state of the art at the time, the differences between the claimed invention and the state of the art, and the foreseeability from a technical perspective and/or marketing and/or natural and expected evolution of the art. Where Samsung cites to a particular figure in a reference, the citation should be understood to encompass the caption and description of the figure and any text relating to the figure. Conversely, where Samsung cites to particular text referring to a figure, the citation should be understood to include the figure as well. As discovery progresses and the scope and focus of the liability issues become clearer, Samsung may rely on uncited portions of the prior art.

Samsung reserves the right to revise their ultimate contentions concerning the invalidity of asserted the Asserted Claims, which may change depending upon discovery taken in the case, the Court's construction of the Asserted Claims, any findings as to the priority dates of the Asserted Claims, and/or positions that Hermes or expert witness(es) may take concerning claim construction, infringement, and/or invalidity issues.

Samsung may rely on Hermes's or any inventor's admissions concerning the scope of prior art relevant to the Asserted Patents; the patent prosecution histories for the Asserted Patents; any deposition testimony of the named inventors on the Asserted Patents; and the papers filed and any evidence submitted by Hermes in connection with this litigation. For example, Samsung reserves the right to assert that the Asserted Claims are invalid under 35 U.S.C. § 102(f) in the

event that Samsung obtains evidence that the named inventors did not invent (either alone or in conjunction with others) the subject matter claimed in the Asserted Patents.

Prior art not included in this disclosure, whether known or not known to Samsung, may become relevant. In particular, Samsung is currently unaware of the extent, if any, to which Hermes will contend that limitations of the Asserted Patents are not disclosed in the prior art identified by Samsung. To the extent such an issue arises, Samsung reserves the right to identify other references that would render obvious the allegedly missing limitation(s) of the disclosed device or method. Further, because discovery has only recently begun and because Samsung has not yet completed their search for or analysis of relevant prior art, Samsung reserves the right to revise, amend, and/or supplement the information provided herein, including identifying, charting, and relying on additional references, should Samsung's further search and analysis yield additional information or references, consistent with the Federal Rules of Civil Procedure.

Additionally, because third-party discovery is not yet complete, Samsung reserves the right to present additional items of prior art under 35 U.S.C. §§ 102(a), (b), (e), and/or (g), and/or § 103, located during the course of such discovery or further investigation, and to assert invalidity under 35 U.S.C. § 101 and/or 35 U.S.C. §§ 102(c), (d), and/or (f), to the extent that such discovery or investigation yields information forming the basis for such invalidity. For example, Samsung expects to issue subpoenas to, and receive information from, third parties believed to have knowledge, documentation, and/or corroborating evidence concerning some of the prior art identified herein and/or additional prior art. These third parties include, without limitation, the authors, inventors, vendors, or assignees of the references listed in these disclosures.

Samsung further reserves the right to modify or add additional contentions in the event that Hermes provides amended infringement contentions and to the extent the Court orders or allows Hermes to amend its infringement contentions.

Pursuant to the Court's First Amended Docket Control Order (Dkt. No. 23) and Patent Local Rule 3-3, and in light of Hermes's Infringement Contentions and accompanying claim chart, Samsung lists in these Invalidity Contentions the prior art now known to it that it contends anticipates or renders obvious the Asserted Claims. Although Samsung has identified at least one disclosure of a limitation for each prior art reference, each and every disclosure of the same limitation in the same reference is not necessarily identified. In an effort to focus the issues, Samsung's cites are only representative portions of an identified reference, even where a reference may contain additional support for a particular claim limitation. POSITAs generally read an item of prior art as a whole and in the context of other publications and literature. Thus, to understand and interpret any specific statement or disclosure within a prior art reference, such persons would rely on other information within the reference, along with other publications and their general scientific knowledge. Samsung may rely upon uncited portions of the prior art references and on other publications and expert testimony to provide context, and as aids to understanding and interpreting the portions that are cited.

Samsung incorporates in these Invalidity Contentions, in full, all prior art references cited in the Asserted Patents and their prosecution histories and any applicable post-grant proceedings, including inter partes reviews (currently pending or otherwise).

Subject to Samsung's reservation of rights, Samsung identifies each item of prior art that anticipates and/or renders obvious the Asserted Claims. The patents/applications, publications,

and systems identified are also relevant to show the state of the art and reasons and motivations for making improvements, additions, and combinations.

Samsung also contends that the Asserted Patents are invalid based on public knowledge and uses and/or offers for sale or sales of products and services that are under 35 U.S.C. § 102(a) and/or 35 U.S.C. § 102(b) and/or prior inventions made in this country by other inventors who had not abandoned, suppressed, or concealed them under 35 U.S.C. § 102(g).

Samsung also reserves the right to rely on any system, public knowledge or use embodying or otherwise incorporating any of the prior art disclosed herein alone or in combination. Samsung further reserves the right to rely on any other documents or references describing any such system, knowledge or use.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions the content, discussion, and disclosures of any filings made in any past or future IPR or reexamination proceedings concerning the Asserted Patents, including any IPR petitions, supporting expert declarations or testimony, and prior art references cited therein.

Dated: January 30, 2025

/s/ Patrick C. Reidy

Jin-Suk Park
jin.park@arnoldporter.com
ARNOLD & PORTER KAYE SCHOLER LLP
601 Massachusetts Ave., NW
Washington, DC 20001-3743
Telephone: (202) 942-5000
Facsimile: (202) 942-5555

Patrick C. Reidy
patrick.reidy@arnoldporter.com
ARNOLD & PORTER KAYE SCHOLER LLP
70 West Madison Street, Suite 4200
Chicago, IL 60602

Telephone: (312) 583-2424
Facsimile: (312) 583-2360

-and-

Melissa Smith
melissa@gillamsmithlaw.com
GILLAM & SMITH LLP
303 South Washington Avenue
Marshall, TX 75670
Telephone: (903) 934-8450
Facsimile: (903) 934-9257

*Attorneys for Samsung Electronics Co., Ltd. and
Samsung Electronics America, Inc.*

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on January 30, 2025, a true and correct copy of the foregoing document was served by electronic mail.

/s/ Raj Patel
Raj Patel