

Maxell, Ltd. v. Apple Inc.: ***Apple's Claim Construction Presentation***

Case No. 5:19-cv-00036-RWS

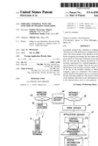
January 8, 2020

Patents-In-Suit

Walking Navigation



'317 Patent



'498 Patent



'999 Patent

Power Management



'794 Patent



'193 Patent

Notification



'306 Patent



'991 Patent

Communication / Authentication



'438 Patent



'586 Patent

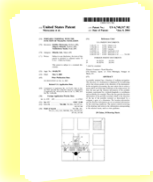
Camera



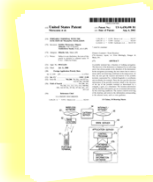
'493 Patent

Patents-In-Suit Reciting Disputed Terms

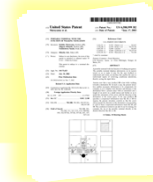
Walking Navigation



'317 Patent

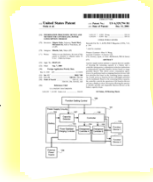


'498 Patent



'999 Patent

Power Management



'794 Patent



'193 Patent

Notification



'306 Patent



'991 Patent

Communication / Authentication

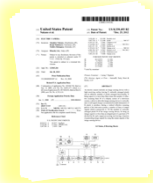


'438 Patent



'586 Patent

Camera

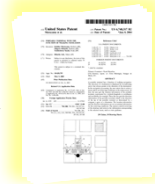


'493 Patent

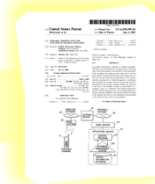
Walking Navigation

'317, '498, '999 Patents

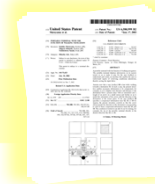
Walking Navigation



'317 Patent



'498 Patent



'999 Patent

Power Management



'794 Patent



'193 Patent

Notification



'306 Patent



'991 Patent

Communication / Authentication



'438 Patent



'586 Patent

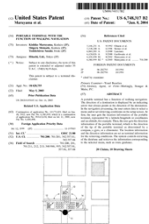
Camera



'493 Patent

The Walking Navigation Patents Share A Common Specification

'317, '498, '999 Patents



'317 Patent

(12) **United States Patent**
Maruyama et al.

(10) Patent No.: **US 6,748,317 B2**
(45) Date of Patent: ***Jun. 8, 2004**

(54) **PORTABLE TERMINAL WITH THE FUNCTION OF WALKING NAVIGATION**

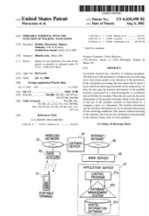
(75) Inventors: **Kishiko Maruyama, Kodaira (JP); Shigeru Shimada, Kodaira (JP); Toshiichirou Sasaki, Iwaki (JP)**

(73) Assignee: **Hitachi, Ltd., Tokyo (JP)**
* * * *

(21) Appl. No.: **10/428,755**

(22) Filed: **May 5, 2003**
* * * *

(30) **Foreign Application Priority Data**
Jul. 12, 1999 (JP) 11-197010



'498 Patent

(12) **United States Patent**
Maruyama et al.

(10) Patent No.: **US 6,430,498 B1**
(45) Date of Patent: **Aug. 6, 2002**

(54) **PORTABLE TERMINAL WITH THE FUNCTION OF WALKING NAVIGATION**

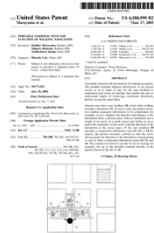
(75) Inventors: **Kishiko Maruyama; Shigeru Shimada, both of Kodaira; Toshiichirou Sasaki, Iwaki, all of (JP)**

(73) Assignee: **Hitachi, Ltd., Tokyo (JP)**
* * * *

(21) Appl. No.: **09/613,634**

(22) Filed: **Jul. 11, 2000**

(30) **Foreign Application Priority Data**
Jul. 12, 1999 (JP) 11-197010



'999 Patent

(12) **United States Patent**
Maruyama et al.

(10) Patent No.: **US 6,580,999 B2**
(45) Date of Patent: ***Jun. 17, 2003**

(54) **PORTABLE TERMINAL WITH THE FUNCTION OF WALKING NAVIGATION**

(75) Inventors: **Kishiko Maruyama, Kodaira (JP); Shigeru Shimada, Kodaira (JP); Toshiichirou Sasaki, Iwaki (JP)**

(73) Assignee: **Hitachi, Ltd., Tokyo (JP)**
* * * *

(21) Appl. No.: **10/173,423**

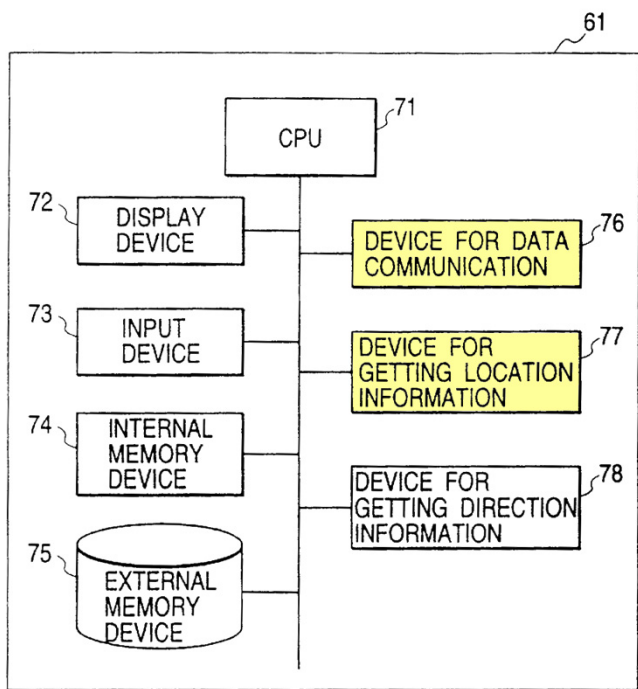
(22) Filed: **Jun. 18, 2002**
* * * *

(30) **Foreign Application Priority Data**
Jul. 12, 1999 (JP) 11-197010

Technology Background

'317, '498, '999 Patents

FIG. 10



'317 Patent at Fig. 10.

(57)

ABSTRACT

A portable terminal has a function of walking navigation. The direction of a destination is displayed by an indicating arrow that always points in the direction of the destination. In the navigation processing, the user enters data to select a menu and/or set retrieving conditions on the setup screen. At first, the user gets the location information of the portable terminal, represented by a latitude/longitude or coordinates and an altitude, for example. Then, the user gets the direction information of the portable terminal, which is the direction of the tip of the portable terminal as determined by a compass, a gyro, or a clinometer. The location information and the direction information are set as terminal information for the retrieving conditions. The system controls retrieving of the database and retrieves the information corresponding to the selected menu, such as route guidance.

'317 Patent at Cover.

Disputed Terms

'317, '498, '999 Patents Claim Construction

“a device for getting location information denoting a present place of said portable terminal”

**“a device for retrieving a route from said present place to said destination” /
“a device for getting a location information another terminal ... via connected network” /
“a device for getting the location information of another portable terminal”**

Disputed Terms

'317, '498, '999 Patents Claim Construction

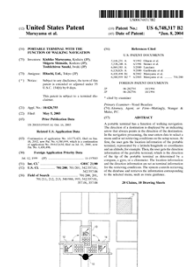
“a device for getting location information denoting a present place of said portable terminal”

“a device for retrieving a route from said present place to said destination” /
“a device for getting a location information another terminal ... via connected network” /
“a device for getting the location information of another portable terminal”

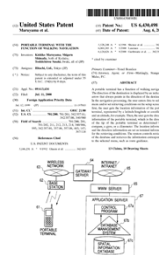
Claim 1

'317, '498, '999 Patents

1. A portable terminal, comprising:
 a device for getting location information denoting a present place of said portable terminal;
 a device for getting a direction information denoting an orientation of said portable terminal;
 an input device for inputting a destination; and
 a display,
 wherein
 said display displays positions of said destination and said present place, and a relation of said direction and a direction from said present place to said destination, and
 said display changes according to a change of said direction of said portable terminal orientation for walking navigation.



'317 Patent



'498 Patent

1. A portable terminal with the function of walking navigation, comprising:
 a device for getting location information denoting a present place of said portable terminal; and
 a device for getting direction information denoting an orientation of said portable terminal,
 wherein a direction and a distance of a destination from said present place are denoted with an orientation and a length of a line that is distinguished between starting and ending points to supply route guidance information as said walking navigation information.



'999 Patent

1. A portable terminal with the function of walking navigation, comprising:
 a device for getting location information denoting a present place of said portable terminal;
 a device for getting direction information denoting an orientation of said portable terminal; and
 a device for getting the location information of another portable terminal, wherein
 a direction from said present place to the location of said another portable terminal is displayed with the distance information between said locations to supply route guidance information as said walking navigation information.

“A Device For Getting Location Information Denoting A Present Place Of Said Portable Terminal”

'317, '498, '999 Patents Claim Construction

Claim Term	Apple's Construction	Maxell's Construction
<p>“a device for getting location information denoting a present place of said portable terminal” (all independent claims of the '317, '498, '999 Patents)</p>	<p>Agreed Function: getting location information denoting a present place of said portable terminal</p>	
	<p>Structure: a wireless or cellular antenna, or a GPS, or a Personal Handyphone System (PHS); and an infrared ray sensor; and a control unit for analyzing received data, with the control unit calculating location information as disclosed in '498 at 5:48-56 and Fig. 2; or equivalents thereof</p>	<p>Structure: a wireless or cellular antenna, a GPS, a PHS, or the like; such a data receiver as an infrared ray sensor, or the like; and a CPU for analyzing received data; or equivalents thereof.</p>

Apple: ■ “infrared ray sensor” is a required part of the structure

Maxell: ■ “infrared ray sensor” is not required – any data receiver is sufficient

An “Infrared Ray Sensor” Is Required

1. Maxell and the PTAB relied on the requirement of an “infrared ray sensor” to distinguish prior art
2. An “infrared ray sensor” is a required part of the only structure disclosed by the specification

“a device for getting location information” (’317, ’498, ’999)

“Infrared Ray Sensor” Was A Required Part Of PTAB Construction – Maxell Did “Not Dispute This Construction”

PTAB’s IPR Institution Decision:

Petitioner proposes “a device for getting location information denoting a present place of said portable terminal” should be construed as “a wireless or cellular antenna, OR a GPS, OR a Personal Handyphone System [PHS], AND an infrared ray sensor; AND a control unit for analyzing received data, with the control unit calculating location information as disclosed in in [sic] 5:48–56, and Fig. 2.” Pet. 18–19 (emphasis in original).

For purposes of this institution decision, we adopt the construction proposed by Petitioner for the first “device” limitation in independent claims 1, 5, and 10. This construction is supported by the cited portions of the Specification of the ‘498 patent. See Ex. 1001, 4:9–11, 9:39–44. We further note that Patent Owner does not dispute this construction.

Ex. R, IPR2019-00071, Inst. Dec. at 8-9.

“a device for getting location information” (‘317, ‘498, ‘999)

Maxell Relied On The “Infrared Ray Sensor” Requirement To Overcome Prior Art And Maintain Patentability

Maxell’s IPR Preliminary Response:

Patent No. 6,430,498
Patent Owner’s Preliminary Response

System; and an infrared ray sensor; and a control unit for analyzing received data, with the control unit calculating location information as disclosed in 5:48-56, and Fig. 2.” Petition at 18-19.⁴ However, neither Suzuki nor Nosaka disclose an “infrared ray sensor”—the phrase is completely absent from the translated copies of the references—a necessary component of Petitioner’s proposed construction. See Petition at 46-49. Petitioner attempts to paper-over this deficiency but such attempts should be rejected.

Suzuki discloses a GPS receiver, but this cannot be an infrared sensor under Petitioner’s proposed construction, which separates the two limitations with a semi-colon. Next, Petitioner points to the beacon receiver and states that “a POSITA would recognize as a ‘data receiver as an infrared ray sensor, or the like.” Petition at 47. First, Petitioner is not even applying its own construction—

5:48-56, and Fig. 2.” Petition at 18-19.⁶ However, as with Suzuki (*see supra*), Colley does not disclose an “infrared ray sensor”—the phrase is completely absent from the reference—a necessary component of Petitioner’s proposed construction. See Petition at 73. Petitioner provides some general statements regarding Colley’s

* * * *

5:48-56, and Fig. 2.” Petition at 18-19. However, as with Colley (*see supra*), Norris does not disclose an “infrared ray sensor”—the phrase is completely absent from the reference—a necessary component of Petitioner’s proposed construction. See Petition at 86-88. Petitioner points to Norris’s disclosure of GPS receivers as support for meeting this limitation, but this material cannot be an infrared sensor under Petitioner’s proposed construction, which separates the two limitations with the semi-colon. Thus, similar to Colley, Norris does not disclose this limitation under the Petitioner’s proposed construction.

“a device for getting location information” (‘317, ‘498, ‘999)

Ex. Q, IPR2019-00071, Prel. Resp. at 14, 28, 38.

The PTAB Relied On The “Infrared Ray Sensor” Requirement To Overcome Prior Art And Maintain Patentability

PTAB’s IPR Institution Decision:

B. Unpatentability

“a device for getting location information denoting a present place of said portable terminal”

As discussed directly above, our construction of the “a device for getting location information denoting a present place of said portable terminal” requires an infrared ray sensor. *See supra* § II.A. Patent Owner argues “neither Suzuki nor Nosaka disclose an ‘infrared ray sensor’—the phrase is completely absent from the translated copies of the references—a necessary component of Petitioner’s proposed construction.” Prelim. Resp. 14. With regard to Colley and Norris, Patent Owner similarly argues, “as with Suzuki . . . , Colley [and Norris] do[] not disclose an ‘infrared ray sensor’—the phrase is completely absent from the reference[s]—a necessary component of Petitioner’s proposed construction.” *Id.* at 28 (Colley), 38 (Norris), *see also id.* at 35, 52–53 (the combinations of references including Ellenby do not disclose this element).

We agree with Patent Owner. Petitioner fails to provide any evidence that the cited art teaches or suggests an infrared ray sensor. In its arguments mapping the art to the claims, Petitioner discusses an infrared ray sensor only in connection with Suzuki and only in the following passage from the Petition:

Ex. R, IPR2019-00071, Inst. Dec. at 9-10.

“a device for getting location information” (‘317, ‘498, ‘999)

Prosecution Disclaimer Ensures Maxell Cannot Apply The Term One Way To Maintain Patentability And A Different Way Against Apple



“Extending the prosecution disclaimer doctrine to IPR proceedings will ensure that claims are not argued one way in order to maintain their patentability and in a different way against accused infringers.

...

[S]tatements made by a patent owner during an IPR proceeding, whether before or after an institution decision, can be considered for claim construction and relied upon to support a finding of prosecution disclaimer.”

Aylus Networks, Inc. v. Apple Inc., 856 F.3d 1353, 1360, 1362-63 (Fed. Cir. 2017)

“a device for getting location information” (‘317, ‘498, ‘999)

The Only Structure Disclosed In The Specification Requires An “Infrared Ray Sensor”

US 6,329,794 B1
 (11) Patent No.: US 6,329,794 B1
 (12) Date of Patent: Dec. 11, 2001

154 INFORMATION PROCESSING DEVICE AND METHOD FOR CONTROLLING POWER CONSUMPTION THEREOF
 6,092,201 * 6,200,789g 320134
 6,092,004 * 6,200,789 Ry 320132

155 Inventor: Shigeo Oda, Eiji Imai, Naoki Mori, Hiromichi Ito, both of Yokohama, JP
 OTHER PUBLICATIONS
 Research File No. S-ACTP, PCIV Magazine (1999), 713, p. 210

156 Assignee: Hitachi, Ltd., Tokyo (JP)
 * cited by examiner

(*) N44c: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

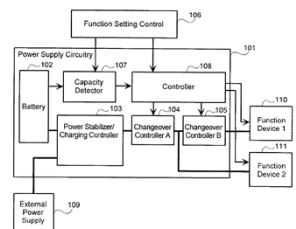
157 Appl. No. 09/455,151
 158 Filed: Sep. 7, 2000
 159 Foreign Application Priority Data
 May 22, 2000 (JP) 12-144358

160 Int. Cl. H02J 7/00
 161 U.S. Cl. 320132, 320130
 162 Field of Search 320132, 316, 320130, 318, 314A26, 428

163 References Cited
 U.S. PATENT DOCUMENTS
 3,948,529 * 10/1999 Iizuka et al. 320433
 14 Claims, 19 Drawing Sheets

Furthermore, in the portable terminal of the present invention with the function of walking navigation, location information to get is represented by a latitude/longitude or coordinates and an altitude. For example, such a wireless antenna as a GPS, a PHS, etc., as well as an infrared ray sensor is used to measure location information. The portable

'498 Patent at 4:6-11; '317 Patent at 4:14-19.



“a device for getting location information” ('317, '498, '999)

Apple's Construction Properly Defines "A Device For Getting Location Information"

Claim Term	Apple's Construction
<p>"a device for getting location information denoting a present place of said portable terminal" (all independent claims of the '317, '498, '999 Patents)</p>	<p>Agreed Function: getting location information denoting a present place of said portable terminal</p> <p>Structure: a wireless or cellular antenna, or a GPS, or a Personal Handyphone System (PHS); and an infrared ray sensor; and a control unit for analyzing received data, with the control unit calculating location information as disclosed in '498 at 5:48-56 and Fig. 2; or equivalents thereof</p>

Apple's construction is supported by the specification, the PTAB's construction, and IPR prosecution disclaimer.

"a device for getting location information" ('317, '498, '999)

Maxell's Arguments

1. There was no disclaimer because Maxell applied the PTAB's construction only to show that Petitioner did not carry its burden of establishing a reasonable likelihood that the claims are unpatentable
2. There was no disclaimer because the PTAB applies a different claim construction standard
3. The specification identifies "an infrared sensor" as an example of structure

Maxell Cannot Hide Behind The Burden Of Proof In The IPR Proceeding



In an IPR proceeding, “the patent owner can define claim terms and make representations about claim scope to avoid prior art for the purposes of either demonstrating that there is not a reasonable likelihood that the claims are unpatentable on the asserted grounds or demonstrating that the challenger has not shown by a preponderance of the evidence that the claims are unpatentable on the asserted grounds. **Regardless of when the statements are made during the proceeding, the public is entitled to rely on those representations”**

Aylus Networks, Inc. v. Apple Inc., 856 F.3d 1353, 1362-63 (Fed. Cir. 2017)

“a device for getting location information” (‘317, ‘498, ‘999)

Maxell's Arguments

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2. There was no disclaimer because the PTAB applies a different claim construction standard
3. The specification identifies "an infrared sensor" as an example of structure

The Means-Plus-Function Construction Standard Was (And Is) The Same In IPRs As In The District Court – § 112, ¶ 6 Governs



“We held that [§ 112 ¶ 6] applies regardless of the context in which the interpretation of means-plus-function language arises, i.e., whether as part of a patentability determination in the PTO or as part of a validity or infringement determination in a court.”

IPCom GMBH & Co. v. HTC Corp., 861 F.3d 1362, 1369 (Fed. Cir. 2017)
(citing *In re Donaldson Co.*, 16 F.3d 1189, 1193 (Fed. Cir. 1994) (en banc))

“a device for getting location information” (‘317, ‘498, ‘999)

The District Court's Construction Cannot Be Broader Than The PTAB's Construction



“In other words, § 112 ¶ 6 sets a limit on how broadly the PTO may construe means-plus-function language under the rubric of ‘reasonable interpretation,’ and the PTO may not disregard the structure disclosed in the specification corresponding to such language when rendering a patentability determination.”

IPCom GMBH & Co. v. HTC Corp., 861 F.3d 1362, 1369 (Fed. Cir. 2017)
(citing *In re Donaldson Co.*, 16 F.3d 1189, 1193 (Fed. Cir. 1994) (en banc))

“a device for getting location information” (‘317, ‘498, ‘999)

Maxell's Arguments

- ~~1. There was no disclaimer because Maxell applied the PTAB's construction only for the purpose of showing how the Petitioner did not carry its burden of establishing a reasonable likelihood that the claims are unpatentable~~
- ~~2. There was no disclaimer because the PTAB applies a different claim construction standard~~
3. The specification identifies "an infrared sensor" as an example of structure

An MPF Term Is Limited To The Structure Disclosed By The Specification And Its Structural Equivalents

Apple's Construction	Maxell's Construction
<p>Structure: a wireless or cellular antenna, or a GPS, or a Personal Handyphone System (PHS); and an infrared ray sensor; and a control unit for analyzing received data, with the control unit calculating location information as disclosed in '498 at 5:48-56 and Fig. 2; or equivalents thereof</p>	<p>Structure: a wireless or cellular antenna, a GPS, a PHS, or the like; such a data receiver as an infrared ray sensor, or the like; and a CPU for analyzing received data; or equivalents thereof.</p>

Apple: ■ Identifies the only structure disclosed by the specification and equivalents thereof

Maxell: ■ Attempts to use “such a data receiver as” and “or the like” to expand claim scope beyond structural equivalents

“a device for getting location information” ('317, '498, '999)

“Such ... As” And “Or The Like” Are Indefinite And Would Improperly Expand The Scope Beyond Structural Equivalents

antenna, and includes *a beacon receiver, which a POSITA would recognize as a “data receiver as an infrared ray sensor, or the like”*, and it includes the current position measuring unit, which a POSITA would have understood to be a “control unit for analyzing received data”. ASUS-1003, ¶ 162. Thus, Suzuki describes all of the elements described by the ‘498 patent as being associated with claimed “a device for getting location information denoting a present place of said portable terminal.”

Pet. 47–48 (emphasis added). In this paragraph, Petitioner does not clearly contend that Suzuki teaches or suggests an infrared ray sensor but includes the indefinite phrase “or the like.” The cited paragraph (¶ 162) from

Ex. R, IPR2019-00071, Inst. Dec. at p. 10.

“a device for getting location information” (‘317, ‘498, ‘999)

An MPF Term Is Limited To The Structure Disclosed By The Specification And Its Structural Equivalents

35 U.S.C. § 112, ¶ 6: “An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification **and equivalents thereof.**”



“If a patentee chooses to disclose a single embodiment, then any means-plus-function claim limitation will be **limited to the single disclosed structure and equivalents thereof.**”

Mettler-Toledo, Inc. v. B-Tek Scales, LLC, 671 F.3d 1291, 1296 (Fed. Cir. 2012)



“The '966 specification discloses use of a generic gradient wave form. **Although it states that other wave forms may be used, it fails to specifically identify those wave forms.** Thus, under section 112, ¶ 6, claim 12 is limited to use of a generic gradient wave form and its equivalents.”

Fonar Corp. v. Gen. Elec. Co., 107 F.3d 1543, 1551–52 (Fed. Cir. 1997)

“a device for getting location information” ('317, '498, '999)

Maxell's Arguments

- ~~1. There was no disclaimer because Maxell applied the PTAB's construction only for the purpose of showing how the Petitioner did not carry its burden of establishing a reasonable likelihood that the claims are unpatentable~~
- ~~2. There was no disclaimer because the PTAB applies a different claim construction standard~~
- ~~3. The specification identifies "an infrared sensor" as an example of structure~~

"a device for getting location information" ('317, '498, '999)

Disputed Terms

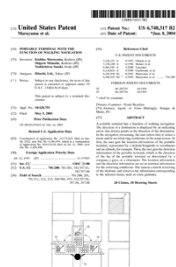
'317, '498, '999 Patents Claim Construction

“a device for getting location information denoting a present place of said portable terminal”

**“a device for retrieving a route from said present place to said destination” /
“a device for getting a location information another terminal ... via connected network” /
“a device for getting the location information of another portable terminal”**

Data Communication Terms

'317, '999 Patents



'317 Patent

10. A portable terminal, comprising:
 a device for getting location information denoting a present place of said portable terminal;
 a device for getting direction information denoting an orientation of said portable terminal;
 a device for getting a location information of another portable terminal from said another terminal via connected network; and
 a display,
 wherein
 said display displays positions of said destination and said present place, and a relation of said direction and a direction from said present place to said destination, and said display changes according to a change of said direction of said portable terminal orientation for walking navigation.

15. A portable terminal with walking navigation according to claim 1, further comprising:
 a device for retrieving a route from said present place to said destination, wherein
 said display displays said route and displays a direction of movement by the arrow.

'317 Patent at claim 10, 15.



'999 Patent

1. A portable terminal with the function of walking navigation, comprising:
 a device for getting location information denoting a present place of said portable terminal;
 a device for getting direction information denoting an orientation of said portable terminal; and
 a device for getting the location information of another portable terminal, wherein
 a direction from said present place to the location of said another portable terminal is displayed with the distance information between said locations to supply route guidance information as said walking navigation information.

'999 Patent at claim 1.

Apple Proposes Adopting The Court's Structure Definition For A Related Data Communication MPF Term



The Court construes “said device connected to said server outputting said location information and said direction information and receiving retrieved information based on said outputted information at said server” [recited in '317 Patent at claim 6] to mean:

Function: outputting said location information and said direction information and receiving retrieved information based on said outputted information at said server

Structure: CPU 71 and device for data communication 76 of a portable telephone and a Personal Handyphone System (PHS) terminal (Figure 10, 9:40–50), or equivalents thereof.

Maxell Ltd. v. Huawei Device USA Inc., 297 F. Supp. 3d 668, 722–23 (E.D. Tex. 2018)

**“A Device For Retrieving A Route From Said Present Place To Said Destination” /
 “A Device For Getting A Location Information Of Another Terminal ... Via Connected Network” /
 “A Device For Getting The Location Information Of Another Portable Terminal”**

'317, '999 Patents Claim Construction

Claim Term	Apple's Construction	Maxell's Construction
<p>“a device for retrieving a route from said present place to said destination” /</p> <p>“a device for getting a location information another terminal ... via connected network” /</p>	<p>Agreed Function: getting a location information of another portable terminal from said another portable terminal via connected network / getting a location information of another portable terminal / retrieving a route from said present place to said destination</p>	
<p>“a device for getting the location information of another portable terminal”</p> <p>(‘317 Claims 10, 15, 18; ‘999 Claims 1, 5, 6)</p>	<p>Structure: CPU 71 and device for data communication 76 of a portable telephone and a Personal Handyphone System (PHS) terminal (Figure 10, ‘317 patent at 9:40-50); or equivalents thereof</p>	<p>Structure: CPU and device for data communication 76 of a portable terminal; or equivalents thereof</p>

Apple: ■ Applies Court’s construction of related communication term based on the only structure disclosed by the specification for all data communication functions


Maxell: ■ Rewrites Court’s construction and sole structure disclosure in the patents

The Court's Prior Construction Applies

1. The term addressed in the prior construction and the three disputed terms here all recite the function of communicating with a remote device
2. The specification discloses only one structure for performing the communicating function – the prior construction relied on that disclosure
3. Maxell agreed with the Court's prior construction of the disclosed data communication structure

"a device for retrieving a route from said present place to said destination" /
"a device for getting a location information of another terminal ... via connected network" /
"a device for getting the location information of another portable terminal" ('317, '498, '999)

The Disputed Terms And The Term Construed In *Huawei* All Recite The Function Of Communicating With A Remote Device

Term construed in <i>Huawei</i>	Terms in dispute in this case
 <p>“said device connected to said server outputting said location information and said direction information and receiving retrieved information based on said outputted information at said server”</p>	<p>“a device for retrieving a route from said present place to said destination”</p> <p>“a device for getting a location information of another terminal ... via connected network”</p> <p>“a device for getting the location information of another portable terminal”</p>

“a device for retrieving a route from said present place to said destination” /
“a device for getting a location information of another terminal ... via connected network” /
“a device for getting the location information of another portable terminal” (’317, ’498, ’999)

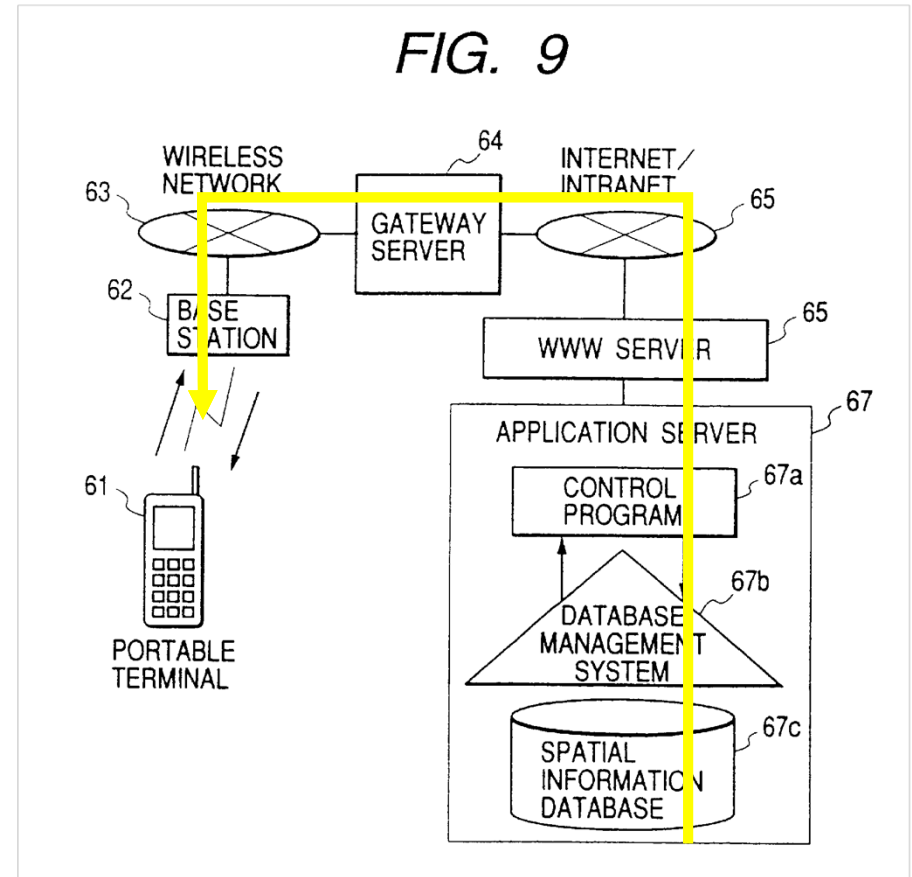
The Disputed Terms And The Term Construed In *Huawei* All Recite The Function Of Communicating With A Remote Device

Term construed in *Huawei*



“said device connected to said server outputting said location information and said direction information and receiving retrieved information based on said outputted information at said server”

“a device for retrieving a route from said present place to said destination” /
 “a device for getting a location information of another terminal ... via connected network” /
 “a device for getting the location information of another portable terminal” ('317, '498, '999)



'317 Patent Fig. 9.

The Disputed Terms And The Term Construed In *Huawei* All Recite The Function Of Communicating With A Remote Device

Term construed in *Huawei*



“said device connected to said server outputting said location information and said direction information and receiving retrieved information based on said outputted information at said server”

Terms in dispute in this case

“a device for retrieving a route from said present place to said destination”

“a device for getting a location information of another terminal ... via connected network”

“a device for getting the location information of another portable terminal”

“a device for retrieving a route from said present place to said destination” /
“a device for getting a location information of another terminal ... via connected network” /
“a device for getting the location information of another portable terminal” (’317, ’498, ’999)

When using the portable terminal of the present invention with the function of walking navigation, it is expected that the following services are available.

- 1) “Route Guidance Service”. . . used when the user has decided a destination, but does not know how to get there.
- 2) “Neighborhood Guidance Service”. . . used for such information guidance as movies, entertainment and business events, restaurants, etc. when the destination is not decided yet.
- 3) “Meeting by Appointment Guidance Service”. . . used when meeting someone by appointment so as to notify the partner of his/her present place and/or to confirm where the partner is now.
- 4) “Present Place Guidance Service”. . . used to know where the walker (user) is now when he/she is lost.

To supply such services, the system is configured with a portable terminal of the present invention with the function of walking navigation respectively and a server that supplies necessary information on the Internet/intranet. Just like the

’317 Patent at 3:27-47.

The Disputed Terms And The Term Construed In *Huawei* All Recite The Function Of Communicating With A Remote Device

Term construed in *Huawei*



“said device connected to said server outputting said location information and said direction information and receiving retrieved information based on said outputted information at said server”

Terms in dispute in this case

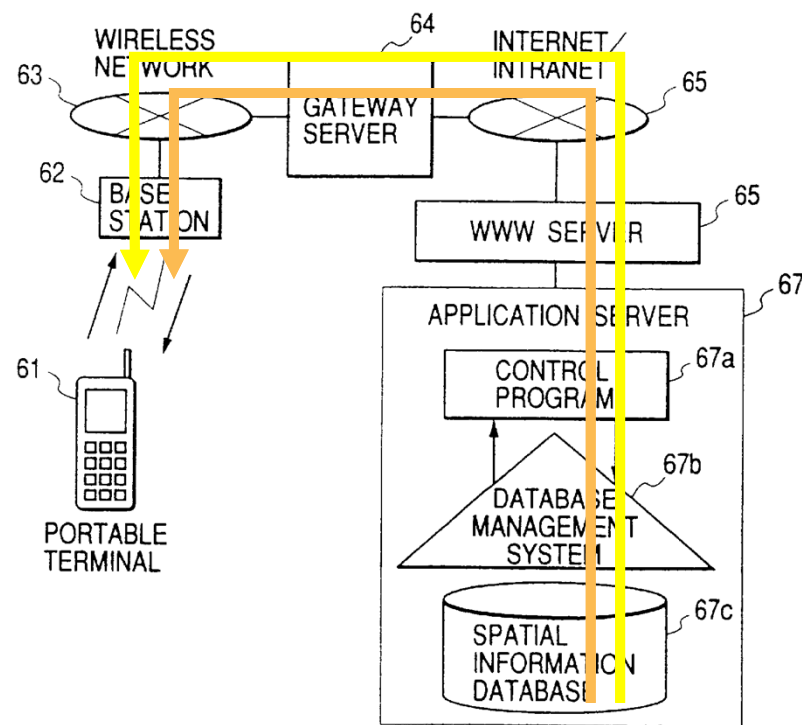
“a device for retrieving a route from said present place to said destination”

“a device for getting a location information of another terminal ... via connected network”

“a device for getting the location information of another portable terminal”

“a device for retrieving a route from said present place to said destination” /
 “a device for getting a location information of another terminal ... via connected network” /
 “a device for getting the location information of another portable terminal” ('317, '498, '999)

FIG. 9



'317 Patent Fig. 9.

No Dispute That The Disputed Data Communication Functions All Use The Same Structure

Testimony of Maxell's Expert:

Patent Term	Applicable Claims
"a device for getting location information denoting a present place of said portable terminal"	'498: claims 1, 5, 10 '317: claims 1, 6, 10 '999: claims 1, 5, 6
"a device for getting direction information denoting an orientation of said portable terminal"	'498: claims 1, 5, 10 '317: claims 1, 6, 10 '999: claims 1, 5, 6
"a device for getting a location information of another portable terminal from said another portable terminal via connected network"	'317: claim 10 '999: claim 6
"a device for getting the location information of another portable terminal"	'999: claims 1, 5
"a device for retrieving a route from said present place to said destination"	'317: claim 15, 18
"a device connected to a server . . . said server outputting said location information and said direction information and receiving retrieved information based on said outputting information at said server"	'317: claim 6

Ex. 11, Rosenberg Decl. at 11.

Q: Looking back at Page 11 of your declaration and focusing on the third, fourth and fifth rows of that table.

A: **Okay.**

Q: Is it correct that your opinion is that the -- although the functions might be different, **it's your opinion that the structures for all three of these terms is the same?**

A: **I believe that's correct. Let me just review for a moment.**

Q: Sure.

A: **I think that's correct. Yeah. That is correct.**

Ex. I, Rosenberg Dep. Tr. at 70:12-25.

"a device for retrieving a route from said present place to said destination" /
 "a device for getting a location information of another terminal ... via connected network" /
 "a device for getting the location information of another portable terminal" ('317, '498, '999)

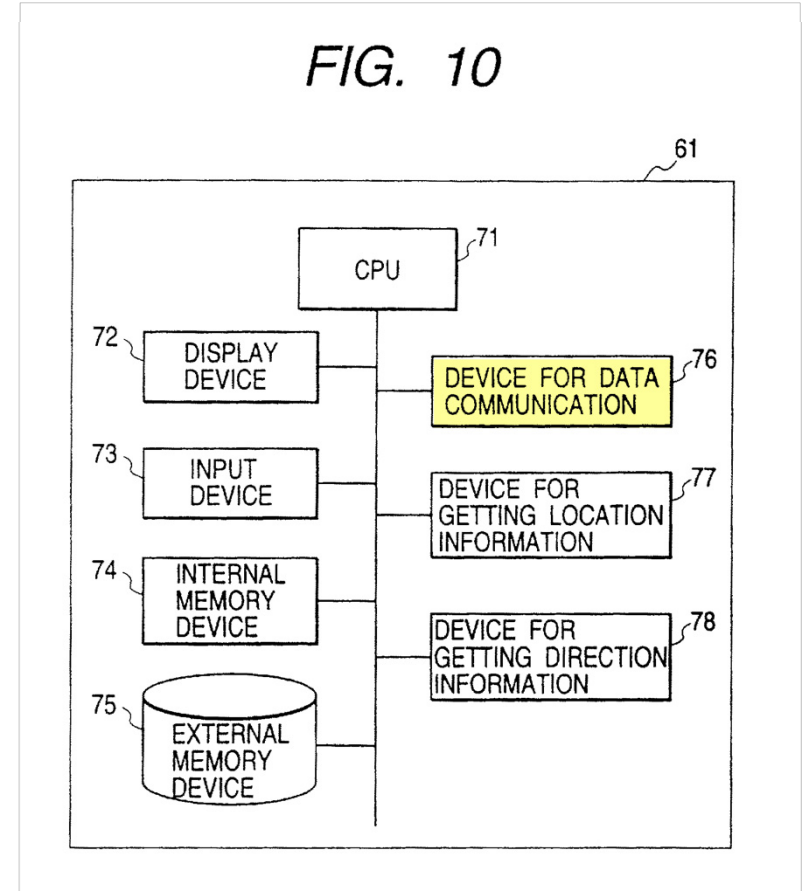
The Specification Discloses Only One Data Communication Structure For All Data Communication

Specification passage identified in Court's *Huawei* Order:

FIG. 10 shows a block diagram of the portable terminal of the present invention with the function of walking navigation. The portable terminal 61 is provided with a CPU 71, which is a control unit; such a display device 71 as a liquid crystal display or the like; an input device 72 enabling inputs of button keys, a pen, etc.; such an internal memory device 74 as a ROM, a RAM, or the like; such an external memory device 75 as a flash memory, a DVD, or the like; a device for data communication 76 of an ordinary portable telephone and a PHS terminal; a device for getting location information; and a device for getting direction information 78.

'317 Patent at 9:40-50.

"a device for retrieving a route from said present place to said destination" /
 "a device for getting a location information of another terminal ... via connected network" /
 "a device for getting the location information of another portable terminal" ('317, '498, '999)



'317 Patent Fig. 10.

The Court Applied The Sole Disclosed Structure In Its Prior Construction And Maxell Agreed



“A close reading of the specification, in context of Figure 10, clarifies that the corresponding structure for the claimed function includes the ‘CPU 71’ and ‘a device for data communication 76.’ The device for data communication 76 is then described in the specification as “a device for data communication 76 of an ordinary portable telephone and a PHS [Personal Handyphone System] terminal.” **Maxell's expert testimony conforms to this disclosure** In light of the specification as interpreted by one skilled in the art, the claimed function involves the use of the CPU 71 and the device for data communication 76 of a portable telephone and a Personal Handyphone System (PHS) terminal. ... **At the oral hearing, Maxell substantially agreed with the construction proposed below by the Court.**”

Maxell Ltd. v. Huawei Device USA Inc., 297 F. Supp. 3d 668, 722 (E.D. Tex. 2018)

“a device for retrieving a route from said present place to said destination” /
“a device for getting a location information of another terminal ... via connected network” /
“a device for getting the location information of another portable terminal” (‘317, ‘498, ‘999)

The Court’s Prior Construction Properly Defines The Data Communication MPF Terms

Claim Term	Apple’s Construction
<p>“a device for retrieving a route from said present place to said destination” /</p> <p>“a device for getting a location information another terminal ... via connected network” /</p> <p>“a device for getting the location information of another portable terminal” (’317 Claims 10, 15, 18; ’999 Claims 1, 5, 6)</p>	<p>Agreed Function: getting a location information of another portable terminal from said another portable terminal via connected network / getting a location information of another portable terminal / retrieving a route from said present place to said destination</p> <p>Structure: CPU 71 and device for data communication 76 of a portable telephone and a Personal Handyphone System (PHS) terminal (Figure 10, ’317 patent at 9:40-50); or equivalents thereof</p>

Apple proposes the same construction as the Court’s construction in *Huawei*, which is based on the sole disclosure of structure in the specification.

“a device for retrieving a route from said present place to said destination” /
 “a device for getting a location information of another terminal ... via connected network” /
 “a device for getting the location information of another portable terminal” (’317, ’498, ’999)

Maxell's Arguments

1. The term construed in *Huawei* recites a different communication function
2. The specification identifies the portable telephone and PHS terminal as examples

"a device for retrieving a route from said present place to said destination" /
"a device for getting a location information of another terminal ... via connected network" /
"a device for getting the location information of another portable terminal" ('317, '498, '999)

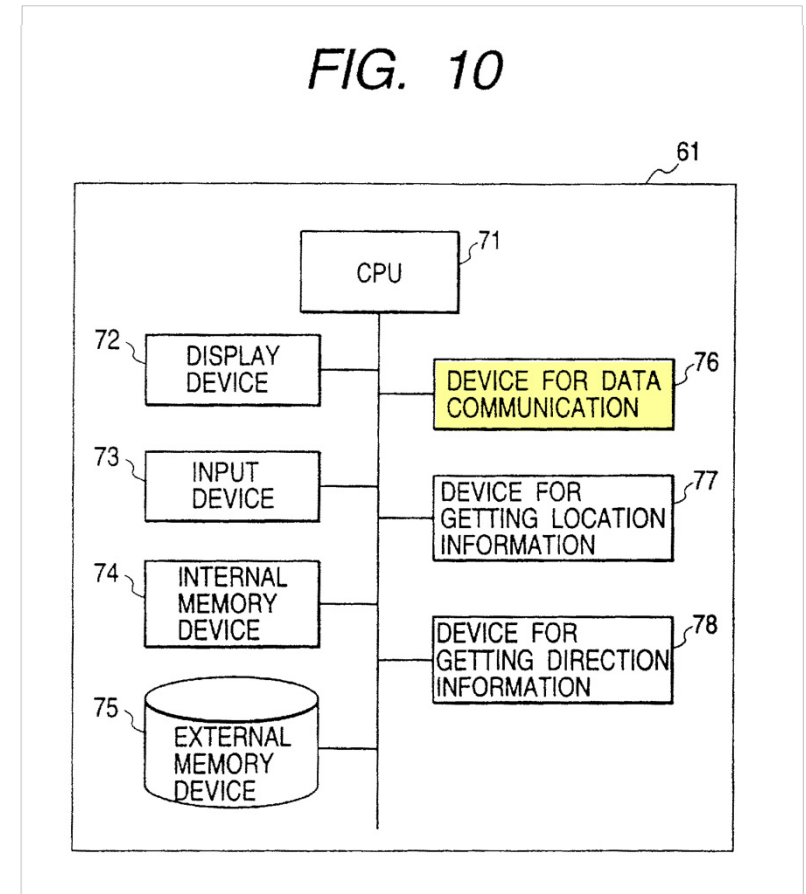
The Specification Discloses Only One Data Communication Structure For All Data Communication

Specification passage identified in Court's *Huawei* Order:

FIG. 10 shows a block diagram of the portable terminal of the present invention with the function of walking navigation. The portable terminal 61 is provided with a CPU 71, which is a control unit; such a display device 72 as a liquid crystal display or the like; an input device 73 enabling inputs of button keys, a pen, etc.; such an internal memory device 74 as a ROM, a RAM, or the like; such an external memory device 75 as a flash memory, a DVD, or the like; a device for data communication 76 of an ordinary portable telephone and a PHS terminal; a device for getting location information 77; and a device for getting direction information 78.

'317 Patent at 9:40-50.

"a device for retrieving a route from said present place to said destination" /
 "a device for getting a location information of another terminal ... via connected network" /
 "a device for getting the location information of another portable terminal" ('317, '498, '999)



'317 Patent Fig. 10.

Maxell Cannot Rely On Differences In The Recited Data Communication Functions When Only One Structure Is Disclosed



“If a patentee chooses to disclose a single embodiment, then any means-plus-function claim limitation will be limited to the single disclosed structure and equivalents thereof.”

Mettler-Toledo, Inc. v. B-Tek Scales, LLC, 671 F.3d 1291, 1296 (Fed. Cir. 2012)

“a device for retrieving a route from said present place to said destination” /
“a device for getting a location information of another terminal ... via connected network” /
“a device for getting the location information of another portable terminal” ('317, '498, '999)

Maxell's Arguments

- ~~1. The term construed in *Huawei* recites a different communication function~~
2. The specification identifies the portable telephone and PHS terminal as examples

"a device for retrieving a route from said present place to said destination" /
"a device for getting a location information of another terminal ... via connected network" /
"a device for getting the location information of another portable terminal" ('317, '498, '999)

The Specification States That All Of The Portable Terminal's Devices Are "Like" Those Of "Portable Telephones and PHS Terminals"

In order to achieve the above objects, the portable terminal of the present invention with the function of walking navigation is provided with data communication, input, and display devices just like those of ordinary portable telephones and PHS terminals, as well as a device for getting location information and a device for getting direction information denoting the user's present place. Hereunder, the location information and the direction information gotten by those devices will be referred to as terminal information collectively.

'317 at 2:62-3:4.

"a device for retrieving a route from said present place to said destination" /

"a device for getting a location information of another terminal ... via connected network" /

"a device for getting the location information of another portable terminal" ('317, '498, '999)

The “Corresponding Structure” Must Be Linked To The Data Communication Function



“Structure disclosed in the specification qualifies as ‘corresponding structure’ if the intrinsic evidence clearly links or associates that structure to the function recited in the claim.”

Williamson v. Citrix Online, LLC, 792 F.3d 1339, 1352 (Fed. Cir. 2015)

“a device for retrieving a route from said present place to said destination” /
“a device for getting a location information of another terminal ... via connected network” /
“a device for getting the location information of another portable terminal” (’317, ’498, ’999)

Only One Structure Is Linked To The Data Communication Function

FIG. 10 shows a block diagram of the portable terminal of the present invention with the function of walking navigation. The portable terminal 61 is provided with a CPU 71, which is a control unit; such a display device 71 as a liquid crystal display or the like; an input device 72 enabling inputs of button keys, a pen, etc.; such an internal memory device 74 as a ROM, a RAM, or the like; such an external memory device 75 as a flash memory, a DVD, or the like; a device for data communication 76 of an ordinary portable telephone and a PHS terminal; a device for getting location information; and a device for getting direction information 78.

'317 Patent at 9:40-50.

"a device for retrieving a route from said present place to said destination" /
"a device for getting a location information of another terminal ... via connected network" /
"a device for getting the location information of another portable terminal" ('317, '498, '999)

Maxell Agrees That The Disclosed Structure Applies To The Related Communication Term

Joint Claim Construction Statement (D.I. 99):

No.	TERM	AGREED CONSTRUCTION
1	<p>“a device connected to a server . . . said device connected to said server outputting said location information and said direction information and receiving retrieved information based on said outputted information at said server”</p> <p>'317 Patent: claim 6</p>	<p>Function: outputting said location information and said direction information and receiving retrieved information based on said outputted information at said server.</p> <p>Structure: CPU 71 and device for data communication 76 of a portable telephone and a Personal Handyphone System (PHS) terminal (Figure 10, '317 Patent at 9:40-50); or equivalents thereof¹</p>

D.I. 99 (JCCS) at 2.

“a device for retrieving a route from said present place to said destination” /
 “a device for getting a location information of another terminal ... via connected network” /
 “a device for getting the location information of another portable terminal” ('317, '498, '999)

Maxell Re-Writes The Disclosure Of Structure Expressly Linked To The Communication Function To Try To Expand These Terms' Scope

FIG. 10 shows a block diagram of the portable terminal of the present invention with the function of walking navigation. The portable terminal 61 is provided with a CPU 71, which is a control unit; such a display device 71 as a liquid crystal display or the like; an input device 72 enabling inputs of button keys, a pen, etc.; such an internal memory device 74 as a ROM, a RAM, or the like; such an external memory device 75 as a flash memory, a DVD, or the like; a device for data communication 76 of an ordinary portable telephone and a PHS terminal; a device for getting location information; and a device for getting direction information 78.

'317 Patent at 9:40-50.

"a device for retrieving a route from said present place to said destination" /
"a device for getting a location information of another terminal ... via connected network" /
"a device for getting the location information of another portable terminal" ('317, '498, '999)

The Court's and Apple's Construction

Structure: CPU 71 and device for data communication 76 of a portable telephone and a Personal Handyphone System (PHS) terminal (Figure 10, '317 patent at 9:40-50); or equivalents thereof

Maxell Re-Writes The Disclosure Of Structure Expressly Linked To The Communication Function To Try To Expand These Terms' Scope

FIG. 10 shows a block diagram of the portable terminal of the present invention with the function of walking navigation. The portable terminal 61 is provided with a CPU 71, which is a control unit; such a display device 71 as a liquid crystal display or the like; an input device 72 enabling inputs of button keys, a pen, etc.; such an internal memory device 74 as a ROM, a RAM, or the like; such an *a portable terminal;* device 75 as a flash memory, a DVD, or the like; a device for data communication 76 of ~~an ordinary portable telephone and a PHS terminal;~~ a device for getting location information; and a device for getting direction information 78.

'317 Patent at 9:40-50.

"a device for retrieving a route from said present place to said destination" /
"a device for getting a location information of another terminal ... via connected network" /
"a device for getting the location information of another portable terminal" ('317, '498, '999)

Maxell's Construction

a portable terminal;
Structure: CPU 71 and device for data communication 76 of ~~a portable telephone and a Personal Handyphone System (PHS) terminal (Figure 10, '317 patent at 9:40-50);~~ or equivalents thereof

Maxell's Arguments

- ~~1. The term construed in *Huawei* recites a different communication function~~
- ~~2. The specification identifies the portable telephone and PHS terminal as examples of portable terminals, so the structure disclosure for the communication device should be rewritten~~

"a device for retrieving a route from said present place to said destination" /
"a device for getting a location information of another terminal ... via connected network" /
"a device for getting the location information of another portable terminal" ('317, '498, '999)

Power Management

'794 Patent

Walking Navigation



'498 Patent

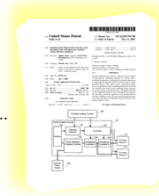


'317 Patent



'999 Patent

Power Management



'794 Patent



'193 Patent

Notification



'306 Patent



'991 Patent

Communication / Authentication



'438 Patent



'586 Patent


Camera



'493 Patent

Power Management

'794 Patent


 US06329794B1

(12) **United States Patent**
 Oeda et al.

(10) **Patent No.:** US 6,329,794 B1
 (45) **Date of Patent:** Dec. 11, 2001

(54) **INFORMATION PROCESSING DEVICE AND METHOD FOR CONTROLLING POWER CONSUMPTION THEREOF**

(75) **Inventors:** Shigeto Oeda, Fujisawa, Naoki Mori, Hiromichi Ito, both of Yokohama, all of JP

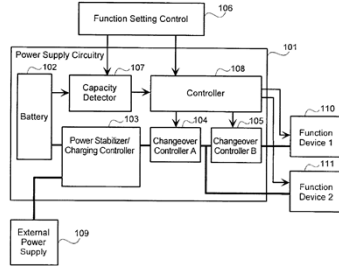
(73) **Assignee:** Hitachi, Ltd., Tokyo (JP)

(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(d) by 0 days.

(21) **Appl. No.:** 09/657,151
 (22) **Filed:** Sep. 7, 2000
 (30) **Foreign Application Priority Data**
 May 22, 2000 (JP) 12-154358
 (51) **Int. Cl.:** H02J 7/00
 (52) **U.S. Cl.:** 320132, 320130
 (58) **Field of Search:** 320132, 134, 320139, 136, 324-25, 428

(56) **References Cited**
 U.S. PATENT DOCUMENTS
 5,968,529 * 10/1999 Ito et al. 324/33

14 Claims, 10 Drawing Sheets



(12) **United States Patent**
Oeda et al.

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(73) **Assignee:** Hitachi, Ltd., Tokyo (JP)

* * * *

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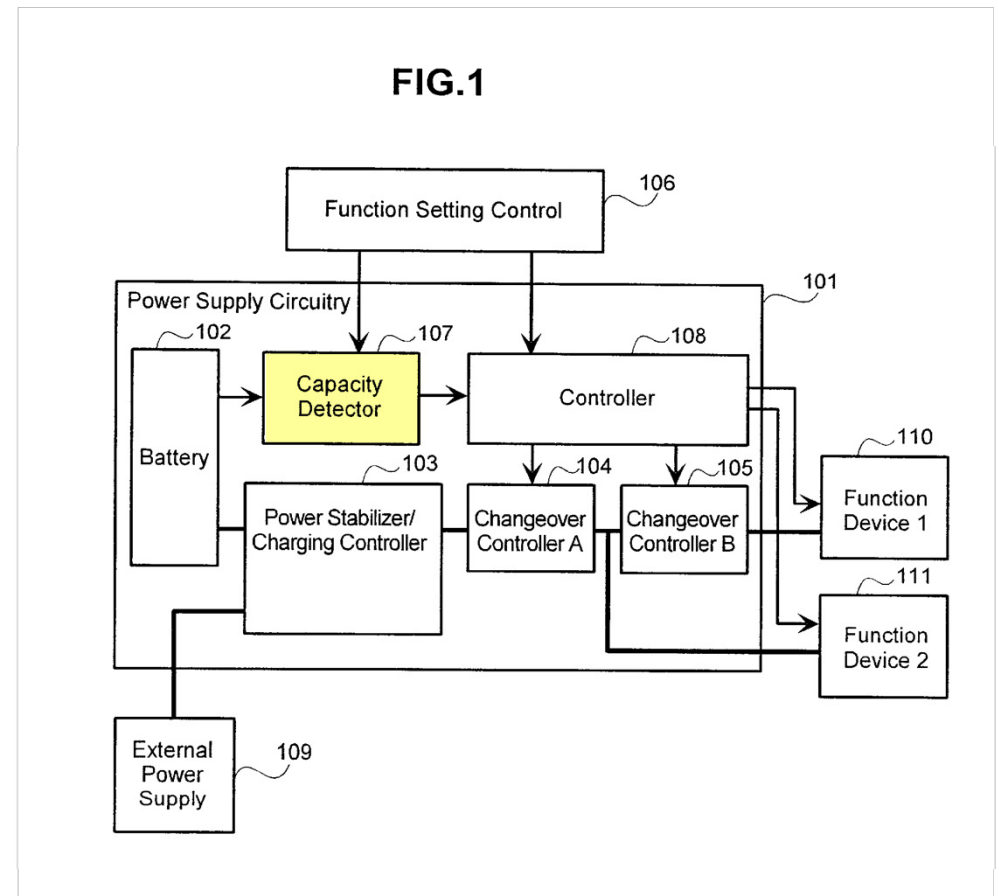
May 22, 2000 (JP) 12-154358

Technology Background

'794 Patent

To conserve battery power:

- Different “function devices” can be turned off at different battery levels
- The “capacity detector” detects battery level and notifies the controller when reference capacity level reached
- If a notification is received, the controller sends “power consumption reduction instruction” to turn off “function devices”



'794 Patent at Fig. 1.

Claim 1

'794 Patent

US06329794B1

(12) **United States Patent**
Oeda et al.

(10) **Patent No.:** US 6,329,794 B1
(45) **Date of Patent:** Dec. 11, 2001

(54) **INFORMATION PROCESSING DEVICE AND METHOD FOR CONTROLLING POWER CONSUMPTION THEREOF** 6,490,210 * 4,200 Hoang 330,134
6,490,666 * 8,200 Ito 320,132

(75) **Inventors:** Shigeo Oeda, Fujisawa; Naoki Mori, Hirumichi Ito, both of Yokohama, all of JP OTHER PUBLICATIONS
Research File No. 5, ACP, POSV Magazine (1999), 715, p. 210.

(73) **Assignee:** Hitachi, Ltd., Tokyo (JP) * cited by examiner

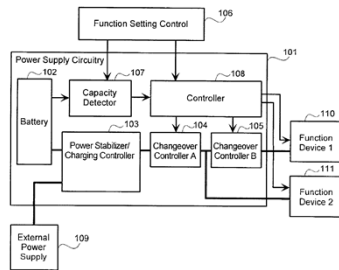
(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(d) by 0 days.
Primary Examiner—Peter S. Wang
Assistant Examiner—Lawrence Lisk
(71) Attorney, Agent, or Firm—McDermott, Will & Emery

(21) **Appl. No.:** 09/657,141 (57) **ABSTRACT**
A power supply section includes a capacity detector capable of detecting the remaining capacity in a battery and a controller issuing power consumption reduction instructions to independently operable function devices based on usage priorities thereof. This allows power consumption operations to be performed such as stopping function devices with low priorities first based on the remaining battery capacity. As a result, power for function devices with higher priorities can be maintained. Based on the remaining battery capacity, the controller controls the operations of the function devices and uses a display to show information allowing the operator to identify operable and inoperable function devices as the battery capacity drops.

(22) **Appl. No.:** 09/657,141
(23) **Filed:** Sep. 7, 2000
(30) **Foreign Application Priority Data**
May 22, 2000 (JP) 12-154308
(51) **Int. Cl.:** H02J 7/00
(52) **U.S. Cl.:** 320/132, 320/130
(58) **Field of Search:** 320/132, 134, 320/139, 136, 324/25, 428

(56) **References Cited**
U.S. PATENT DOCUMENTS
5,968,529 * 10/1999 Ito et al. 324/13

14 Claims, 10 Drawing Sheets



1. An information processing device comprising:
 at least two function devices equipped with independent functions; and
 a power supply circuit for supplying power to each of said function devices, said power supply circuit including a battery, a capacity detector for detecting a remaining capacity of said battery, and a controller for controlling operation of said function devices based on said remaining capacity;
 wherein when said capacity detector detects remaining battery capacities NA and NB (where NA>NB), said controller sends a power consumption reduction instruction to each function device included in a set GA if NA is detected, each function device of the set GA having a lower usage priority, and to each function device of a set GB if NB is detected, each function device of set GB is not included in said set GA.

Dispute: Whether The Claim Term Is Means-Plus-Function



“The standard is 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.”

Williamson v. Citrix Online, LLC, 792 F.3d 1339, 1349 (Fed. Cir. 2015)

“Capacity Detector ...”

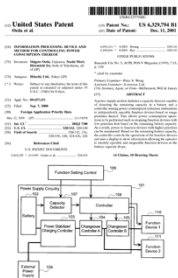
'794 Patent Claim Construction

Claim Term	Apple's Construction	Maxell's Construction
<p>“capacity detector for detecting a remaining [battery] capacity of said battery” (Claims 1, 9)</p>	<p>Function: detecting a remaining capacity of a battery</p> <p>Structure: Capacity Detector 107 (as configured in Figs. 1, 6, 10, or 11) performing the steps shown in Fig. 4.; or equivalents thereof</p>	<p>Plain and ordinary meaning</p>

Apple: ■ “Capacity detector for detecting ...” – claims function without specifying structure

Maxell: ■ Undisclosed meaning and scope – covers all structures capable of detecting remaining battery capacity

The Parties Agree That “Capacity Detector” Recites A Function



a power supply circuit for supplying power to each of said function devices, said power supply circuit including a battery, a capacity detector for detecting a remaining capacity of said battery, and a controller for controlling operation of said function devices based on said remaining capacity;

'794 Patent at claim 1.

Maxell's Expert Declaration:



'794 Patent, as well as extrinsic evidence. In my opinion, a person of ordinary skill in the art would understand “capacity detector,” as used in claims 1 and 9, to connote sufficiently definite structure for the stated function: detecting a remaining capacity of the battery. As a result, I

Ex. 1 (Brogioli Decl.) at ¶ 28.

“Capacity Detector” ('794)

“Capacity Detector” Is Purely Functional

Apple’s Expert:

Case 5:19-cv-00036-RWS Document 181-2 Filed 12/09/19 Page 2 of 115 PageID #: 6294

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

MANUELL LTD.,
Plaintiff,
vs.
APPLE INC.,
Defendant.

Civil Action No. 5:19-cv-00036-RWS

DECLARATION OF DR. DANIEL A. MENASCHE IN SUPPORT OF
APPLE INC.’S PROPOSED CLAIM CONSTRUCTION

63. And even if the “capacity detector” is limited to those devices that perform the function of “detecting a remaining battery capacity of [a] battery,” this does not sufficiently describe a structure for such devices. This is because there can be many different classes of structures that could perform the function of “detecting a remaining capacity of [a] battery.” For

* * * *

are listed above. Therefore, a person of ordinary skill in the art around the filing of the ’794 patent would not have known what structure is intended for a “capacity detector” recited in the ’794 patent, claims 1 and 9.

Ex. A (Menasce Decl.) at ¶ 63.

“Capacity Detector” (’794)

Maxell Interprets “Capacity Detector” As Purely Functional

Testimony of Maxell’s Expert:

Q: So can you think of any structure that is capable of performing the function of detecting a remaining capacity of the battery, but would fall outside of the plain and ordinary meaning of the capacity detector term?

A: I don’t know that I have thought about that, but, I mean, something that does -- isn't a -- maybe I am not understanding your question, but something that is not a capacity detector wouldn’t do that.

...

Q: As you sit here today, you cannot think of any example of a structure that detects a remaining capacity of the battery, but would not be a capacity detector, right?

A: Yeah, I don't have an opinion on that today.

Ex. E (Brogioli Dep. Tr.) at 99:5-17, 104:3-10.

A Claim Term Cannot Claim Only Function



“If we accepted [patent owner’s] argument that we should not apply section 112, ¶ 6, a ‘moving element’ could be any device that can cause the lever to move. [The claim term], however, cannot be construed so broadly to cover every conceivable way or means to perform the function of moving a lever, and there is no structure recited in the limitation that would save it from application of section 112, ¶ 6.”

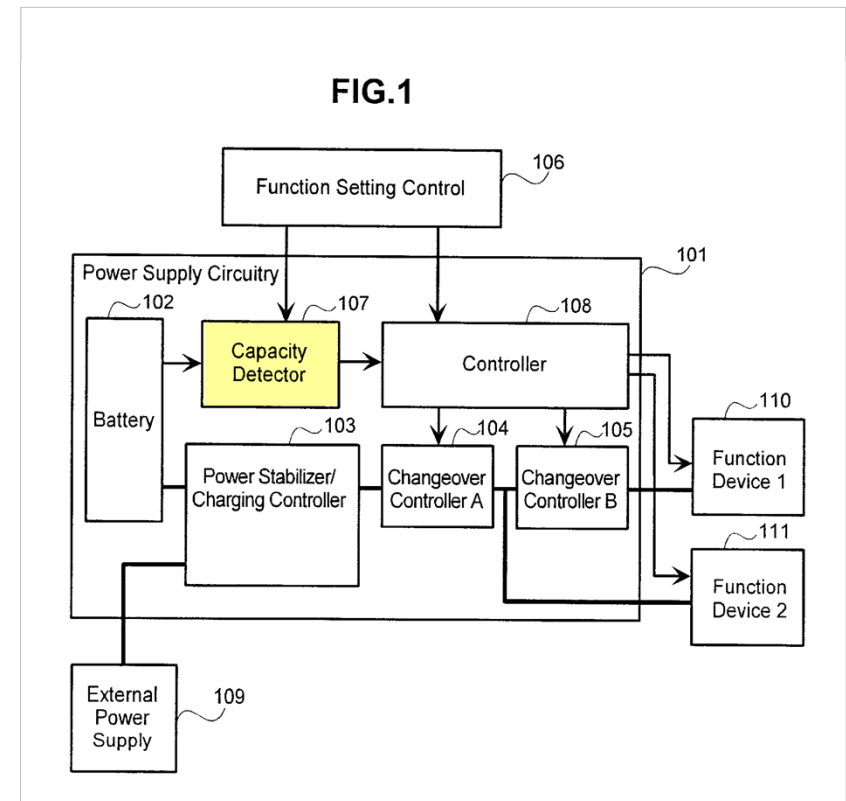
Mas-Hamilton Grp. v. LaGard, Inc., 156 F.3d 1206, 1214 (Fed. Cir. 1998)

The Structure Of A MPF Term Cannot Be A “Black Box”



The structure of a means-plus-function term cannot simply be “a black box that performs a recited function;” it must include sufficient details such as the “algorithm for performing the claimed function.”

Blackboard, Inc. v. Desire2Learn, Inc., 574 F.3d 1371, 1383 (Fed. Cir. 2009)



'794 Patent at Fig. 1.

“Capacity Detector” ('794)

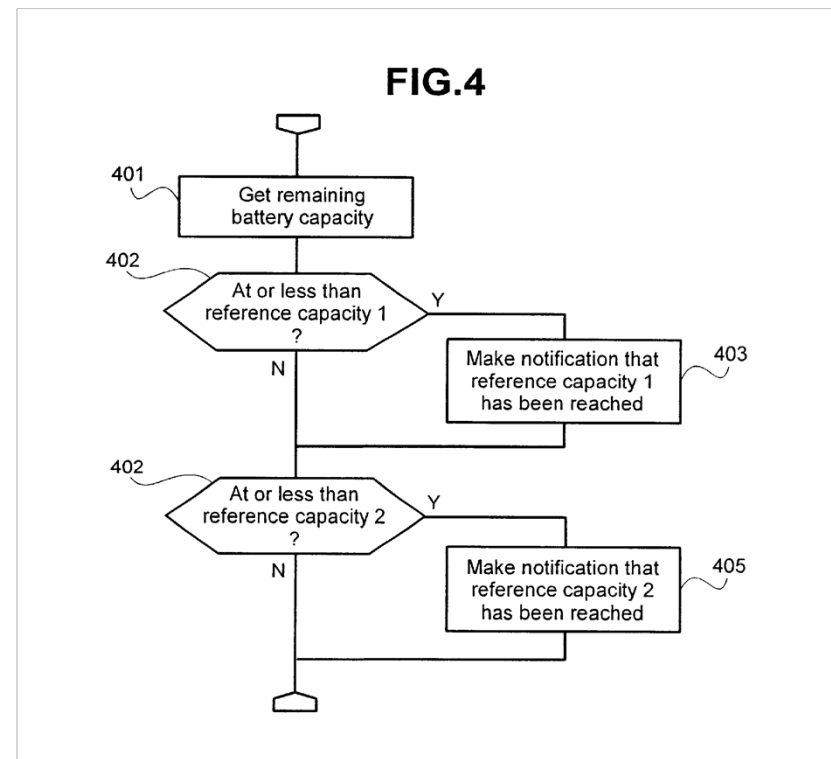
Fig. 4 Shows The Operations Performed By “Capacity Detector 107”

FIG. 4 is a flowchart showing the operations performed by a capacity detector of a power supply section according to an embodiment of the present invention.

* * * *

The following is a description of the operations performed for the different functions of the power supply section. The priority table and the function association table shown in FIG. 8 and FIG. 9 will be used. FIG. 4 shows the operations performed by the capacity detector 107. The capacity detector 107 periodically performs the operations in FIG. 4.

'794 Patent at 2:55-57; 4:18-23.



'794 Patent at Fig. 4.

Apple's Construction Properly Defines "Capacity Detector"

Claim Term	Apple's Construction
<p>"capacity detector for detecting a remaining [battery] capacity of said battery" (Claims 1, 9)</p>	<p>Function: detecting a remaining capacity of a battery</p> <p>Structure: Capacity Detector 107 (as configured in Figs. 1, 6, 10, or 11) performing the steps shown in Fig. 4.; or equivalents thereof</p>

Apple's construction identifies the only structure disclosed in the specification for an otherwise purely functional term.

Maxell's Arguments Against MPF Construction

1. The parties' experts can identify possible structures capable of detecting battery capacity
2. The Federal Circuit previously construed "digital detector" in a different patent to be structural

Listing Possible Structures Is Not Sufficient To Avoid § 112, ¶ 6



“[M]erely listing examples of possible structures is insufficient to avoid invocation of § 112, ¶ 6. Indeed, means-plus-function language that defines a category in functional terms will typically cover examples of structures that fall within it. This is not a basis for distinguishing structural language from § 112, ¶ 6 language.”

Robert Bosch, LLC v. Snap-On Inc., 769 F.3d 1094, 1101 (Fed. Cir. 2014)

Maxell's Arguments Against MPF Construction

- ~~1. The parties' experts can identify possible structures capable of detecting battery capacity~~
2. The Federal Circuit previously construed "digital detector" in a different patent to be structural


Maxell Relies On *Personalized Media* Construction of “Detector”



“[W]e agree with PMC that the Commission erred in construing the term ‘digital detector’ as a means-plus-function limitation. ... Instead, as noted by the ALJ by reference to dictionary definitions, ‘detector’ had a well-known meaning to those of skill in the electrical arts connotative of structure, including a rectifier or demodulator.”

Personalized Media Commc’n, LLC v. Int’l Trade Comm’n, 161 F.3d 696 (Fed. Cir. 1998)

Maxell's Reliance On *Personalized Media* Is Misplaced

<i>Personalized Media v. ITC</i> (1998)	This Case
 <ul style="list-style-type: none"> Technology field: TV broadcasting in 1981 	<ul style="list-style-type: none"> Technology field: power management for portable devices in 2000
<ul style="list-style-type: none"> Term: "digital detector" 	<ul style="list-style-type: none"> Term: "capacity detector for detecting a remaining capacity of said battery"
<ul style="list-style-type: none"> Patentee proposed construction that identified structure and presented dictionary evidence of the term's usage in the relevant context that was consistent with its construction 	<ul style="list-style-type: none"> Maxell identifies no structure and presents no evidence of the term's usage – only offers its expert's <i>ipse dixit</i> conclusion
<ul style="list-style-type: none"> Evidence described specific structures such as "rectifier or demodulator" 	<ul style="list-style-type: none"> No limit on structure — Maxell argues term encompasses all possible structures that perform the recited function

"Capacity Detector" ('794)

Another Court Found A “Detector” Term To Be MPF



“[A] claim may be a means-plus-function-claim when it invokes purely functional terms without the additional recital of specific structure or material for performing that function. ... ‘Location detector’ as invoked in Claim 25 is a purely functional term, and Claim 25 recites no specific structure or material for performance of location detection. ... [W]ithout any structural specification for the device that enables location detection, the term ‘location detector’ can be understood as nothing more than some device that enables location detection when used in the manner specified.”

Kensey Nash Corp. v. Perclose, Inc., 2001 U.S. Dist. LEXIS 12754, *18-19 (E.D. Pa. Aug. 21, 2001)

Maxell's Arguments Against MPF Construction

- ~~1. The parties' experts can identify possible structures capable of detecting battery capacity~~
- ~~2. The Federal Circuit previously construed "digital detector" in a different patent to be structural~~

Portable Mobile Unit

'306 Patent

Walking Navigation

'498 Patent

'317 Patent

'999 Patent

Power Management

'794 Patent

'193 Patent

Notification

'306 Patent

'991 Patent

Communication / Authentication

'438 Patent

'586 Patent

Camera

'493 Patent

Portable Mobile Unit

'306 Patent

(12) **United States Patent**
Matsuda et al.

(10) **Patent No.: US 6,928,306 B2**
 (45) **Date of Patent: Aug. 9, 2005**

US006928306B2

(12) **United States Patent**
Matsuda et al.

(10) **Patent No.: US 6,928,306 B2**
 (45) **Date of Patent: Aug. 9, 2005**

(54) **PORTABLE MOBILE UNIT**

(73) **Inventors: Masayuki Matsuda, Tokyo (JP); Tomohiro Esaki, Tokyo (JP); Kazuyuki Takizawa, Tokyo (JP); Akio Shinagawa, Tokyo (JP); Chikako Takada, Tokyo (JP)**

(73) **Assignee: Hitachi, Ltd., Tokyo (JP)**

(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 373 days.

(21) **Appl. No.: 09/755,878**

(22) **Filed: Jan. 4, 2001**

(65) **Prior Publication Data**
 US 2003/0014610 A1 Aug. 16, 2003

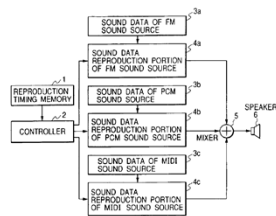
(30) **Foreign Application Priority Data**
 Jan. 7, 2000 (JP) 2000-005858

(51) **Int. Cl.** H04B 1/08

(52) **U.S. Cl.** 455/567, 450, 455/564, 418, 98, 180.1, 201, 202, 361/24, 379/88.19, 252, 418, 84/815

(56) **References Cited**
 U.S. PATENT DOCUMENTS
 5,563,951 A * 01/1996 Wang et al. 455/100

15 Claims, 8 Drawing Sheets



(54) **PORTABLE MOBILE UNIT**

(75) **Inventors: Masayuki Matsuda, Tokyo (JP); Tomohiro Esaki, Tokyo (JP); Kazuyuki Takizawa, Tokyo (JP); Akio Shinagawa, Tokyo (JP); Chikako Takada, Tokyo (JP)**

(73) **Assignee: Hitachi, Ltd., Tokyo (JP)**

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(21) **Appl. No.: 09/755,878**

(22) **Filed: Jan. 4, 2001**

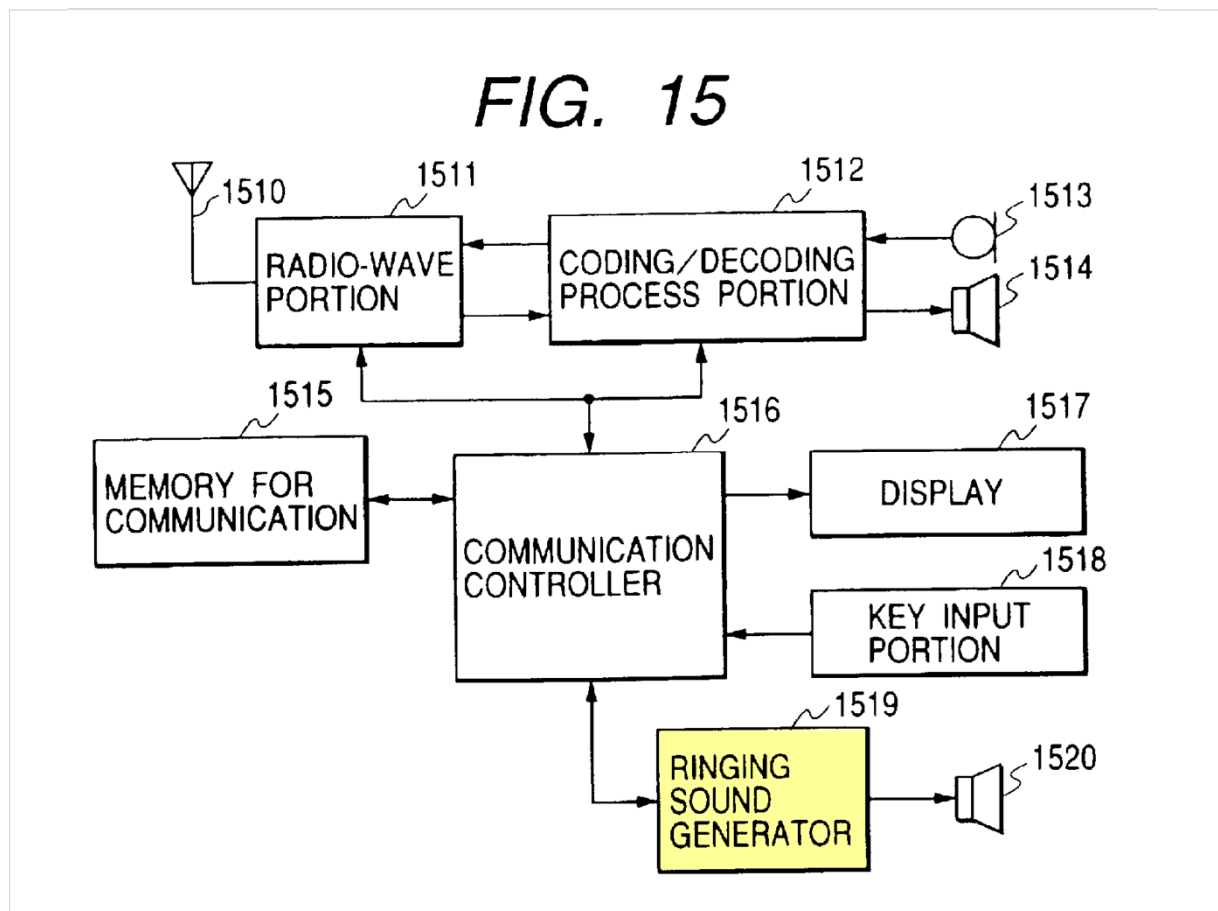
* * * *

(30) **Foreign Application Priority Data**

Jan. 7, 2000 (JP) 2000-005858

Technology Background

'306 Patent



'306 Patent at Fig. 15.

Claim 2

'306 Patent

US007250642

(12) **United States Patent**
Matsuda et al.

(11) **Patent No.:** US 6,928,306 B2
(15) **Date of Patent:** Aug. 9, 2005

(54) **PORTABLE MOBILE UNIT**

(75) **Inventors:** Masaoaki Matsuda, Tokyo (JP);
Tomohiro Kashi, Tokyo (JP);
Kazuoaki Taketani, Tokyo (JP); Akio
Shimogawa, Tokyo (JP); Chikako
Takahashi, Tokyo (JP)

(73) **Assignee:** Hitachi, Ltd., Tokyo (JP)

(* *) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 575 days.

(21) **App. No.:** 09/755,878

(22) **Filed:** Jan. 4, 2001

(65) **Priority Publication Data**
US 2001/0048161 A1 Aug. 16, 2001

(50) **Foreign Application Priority Data**
Jan. 7, 2000 (JP) 2000-008008

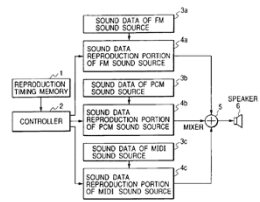
(51) **Int. Cl.:** H04B 1/38

(52) **U.S. Cl.:** 455/567; 455/438

(58) **Field of Search:** 455/567, 456, 455/564, 418, 99, 180.1, 209, 326, 361, 264, 379, 48, 19, 252, 418, 44, 613

(59) **References Cited**
U.S. PATENT DOCUMENTS
5,583,931 A * 10/1996 Wang et al. 455/100

15 Claims, 8 Drawing Sheets



2. A portable mobile unit capable of alerting on incoming of a signal by a ringing sound, comprising:
 a ringing sound generator having a plurality of sound sources therewith; and
 a controller for controlling operations of said portable mobile unit, wherein
 said controller controls said ringing sound generator so as to generate the ringing sound using at least two of said sound sources when the signal comes in.

Dispute: Whether The Claim Term Is Means-Plus-Function



“The standard is 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.”

Williamson v. Citrix Online, LLC, 792 F.3d 1339, 1349 (Fed. Cir. 2015)

“Ringing Sound Generator”

'306 Patent Claim Construction

Claim Term	Apple’s Construction	Maxell’s Construction
“ringing sound generator” (Claims 2, 12, 13)	Function: to generate a ringing sound Structure: Element 1519 in Figure 15 comprising 1, 3a- 3c, and 4a-4c in Figure 1; or equivalents thereof	Plain and ordinary meaning

Apple: ▪ “Ringing sound generator” is a purely functional term devoid of structure

Maxell: ▪ Undisclosed meaning and scope – covers all structures capable of generating a ringing sound

“Ringing Sound Generator” Recites A Function

2. A portable mobile unit capable of alerting on incoming of a signal by a ringing sound, comprising:

a ringing sound generator having a plurality of sound sources therewith; and

a controller for controlling operations of said portable mobile unit, wherein

said controller controls said ringing sound generator so as to generate the ringing sound using at least two of said sound sources when the signal comes in.

'306 Patent at claim 2.

The structures of the cellular phone, according to a first embodiment of the present invention, will be shown in FIG. 15, wherein a reference numeral 1510 indicates a transmis-

* * * *

1517 a display, and 1518 a key-input portion. A reference numeral 1519 indicates a ringing sound generator for generating the ringing sound when it receives the radio-wave signal, and 1520 a speaker for outputting the alerting signal that is reproduced in the ringing sound generator 1519, audibly. Further, in the explanation given below, “repro-

'306 Patent at 4:13-29.

“Ringing Sound Generator” Is Not The Name of A Known Structure



Construing the term “**alert sound generator**”: “[T]he limitation is defined by its function, i.e., a generator used to generate an alert sound. The court concludes that the limitation is subject to § 112, ¶ 6, with a function ‘generating the alert sound when the call is received from the remote caller’”

Mobilemedia Ideas, LLC v. Apple Inc., 178 F. Supp. 3d 209, 218 (D. Del. 2016)

“Ringing Sound Generator” Is Not The Name of A Known Structure

Patent at issue ('306):

The structures of the cellular phone, according to a first embodiment of the present invention, will be shown in FIG. 15, wherein a reference numeral 1510 indicates a transmis-

* * * *

1517 a display, and 1518 a key-input portion. A reference numeral 1519 indicates a ringing sound generator for generating the ringing sound when it receives the radio-wave signal, and 1520 a speaker for outputting the alerting signal that is reproduced in the ringing sound generator 1519, audibly. Further, in the explanation given below, “repro-

2. A portable mobile unit capable of alerting on incoming of a signal by a ringing sound, comprising:

a ringing sound generator having a plurality of sound sources therewith; and

a controller for controlling operations of said portable mobile unit, wherein

said controller controls said ringing sound generator so as to generate the ringing sound using at least two of said sound sources when the signal comes in.

MobileMedia Patent:

On the contrary, when a call is given to this portable telephone 1 from another party, the CPU 7 detects this call and performs control to turn on an alert on/off controller 12 to thereby make an alert sound generator 13 generate an alert sound. Thus, the user is able to notice the call incoming. In

1. A communication terminal for informing a user of a received call from a remote caller by an alert sound, comprising:

an alert sound generator for generating the alert sound when the call is received from the remote caller;

control means for controlling said alert sound generator; and

means for specifying a predetermined operation by the user,

* * * *

RE39,231 at 2:48-52, Claim 1.

“Ringing sound generator” ('306)

'306 Patent at Claim 2, 4:13-29.

Federal Circuit Found “Symbol Generator” To Be MPF



“[Patentee’s expert’s] testimony that the terms ‘symbol’ and ‘generator’ are known within the field of computer science is not dispositive and does not require us to find that 35 U.S.C. § 112, ¶ 6 does not apply. ... Irrespective of whether the terms ‘symbol’ and ‘generator’ are terms of art in computer science, **the combination of the terms as used in the context of the relevant claim language** suggests that it is simply an abstraction that describes the function being performed (i.e., the generation of symbols).”

Advanced Ground Information Systems v. Life360, 830 F.3d 1341, 1348 (Fed. Cir. 2016)

“Ringing Sound Generator” Is Not The Name of A Known Structure

Apple’s Expert:

34. Similarly, in the electrical engineering, computer engineering, or computer science fields, there is no commonly understood class of structures for a “ringing sound generator.” One of ordinary skill in the art would understand that many different classes of structures could generate a ringing sound. For example, an electric motor against a bell, as used in telephones beginning in the late 1800s, could generate a ringing sound. Further, one of ordinary skill in the art would understand that other structures, such as a spring mechanism, a piezoelectric device, a speaker outputting recorded sound, and a CPU decoding an MP3, could generate a ringing sound. Thus, the term “ringing sound generator” describes only the function performed by some apparatus—*i.e.*, generating a ringing sound—it does not denote a specific structure or a particular class of structure. Therefore, a person of ordinary skill in the art around the filing of the ’306 patent would not have known what structure is intended for a “ringing sound generator” recited in the ’306 patent, claims 2, 12, and 13.

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

MAXELL, LTD.,
Plaintiff,
vs.
APPLE INC.,
Defendant.

Civil Action No. 5:19-cv-00036-RWS

DECLARATION OF DR. BENJAMIN B. BEDERSON IN SUPPORT OF
APPLE INC.'S PROPOSED CLAIM CONSTRUCTIONS

“Ringing sound generator” (’306)

Ex B. (Bederson Decl.) at ¶ 34.

Maxell Uses “Plain and Ordinary Meaning” To Claim Only Function

Testimony of Maxell’s Expert:

Q: I am asking, though, is it your opinion that any combination of hardware elements that generates a ringing sound, that meets the characteristics of the ringing sounds described in the patent, would that constitute a ringing sound generator?

A: I believe that is what I consider the plain and ordinary meaning of ringing sound generator, an element that creates a ringing sound.

Ex. F (Maher Dep. Tr.) at 90:14-24.

A Claim Limitation Cannot Claim Only Function

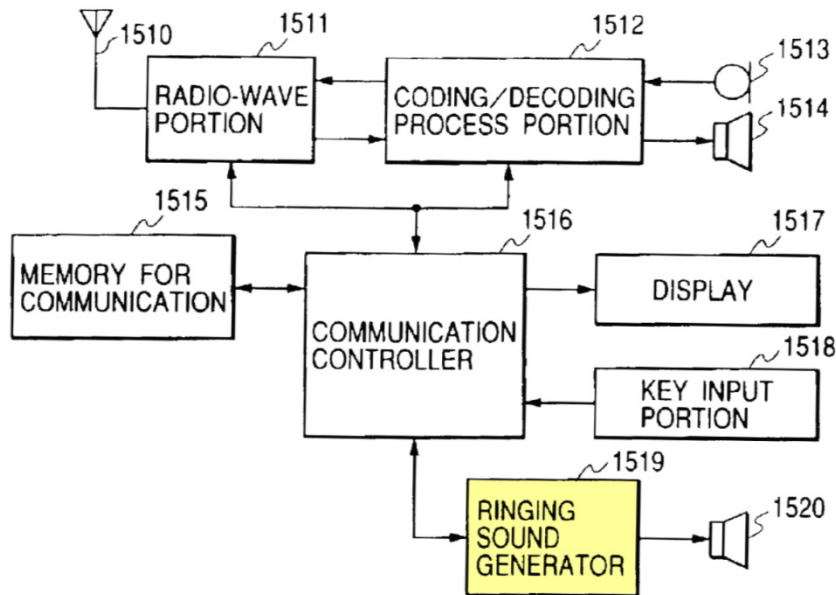


“If we accepted [patent owner’s] argument that we should not apply section 112, ¶ 6, a ‘moving element’ could be any device that can cause the lever to move. [The claim term], however, cannot be construed so broadly to cover every conceivable way or means to perform the function of moving a lever, and there is no structure recited in the limitation that would save it from application of section 112, ¶ 6.”

Mas-Hamilton Grp. v. LaGard, Inc., 156 F.3d 1206, 1214 (Fed. Cir. 1998)

Figure 15 Illustrates “Ringing Sound Generator” As A Black Box

FIG. 15



The structures of the cellular phone, according to a first embodiment of the present invention, will be shown in FIG. 15, wherein a reference numeral 1510 indicates a transmis-

* * * *

1517 a display, and 1518 a key-input portion. A reference numeral 1519 indicates a ringing sound generator for generating the ringing sound when it receives the radio-wave signal, and 1520 a speaker for outputting the alerting signal that is reproduced in the ringing sound generator 1519, audibly. Further, in the explanation given below, “repro-

'306 Patent at 4:13-29, Fig. 15 (annotations added).

“Ringing sound generator” ('306)

Figure 1 Shows The Disclosed Structure of “Ringing Sound Generator”

FIG. 15

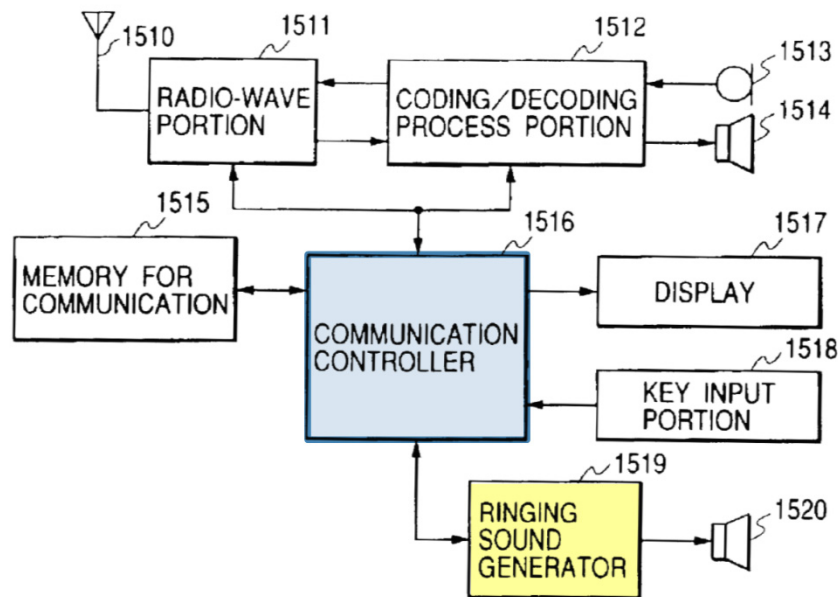


FIG. 1 is a block diagram of showing details of the communication controller 1516 and the ringing sound generator 1519 shown in the FIG. 15. The cellular phone in the

'306 Patent at 4:34-36, Fig. 15 (annotations added).

“Ringing sound generator” (‘306)

Figure 1 Shows The Disclosed Structure of "Ringing Sound Generator"

FIG. 15

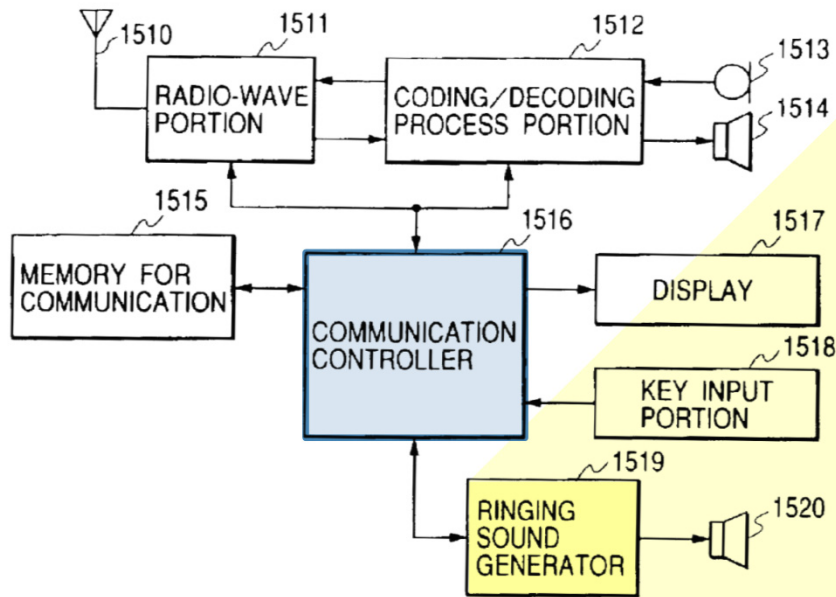
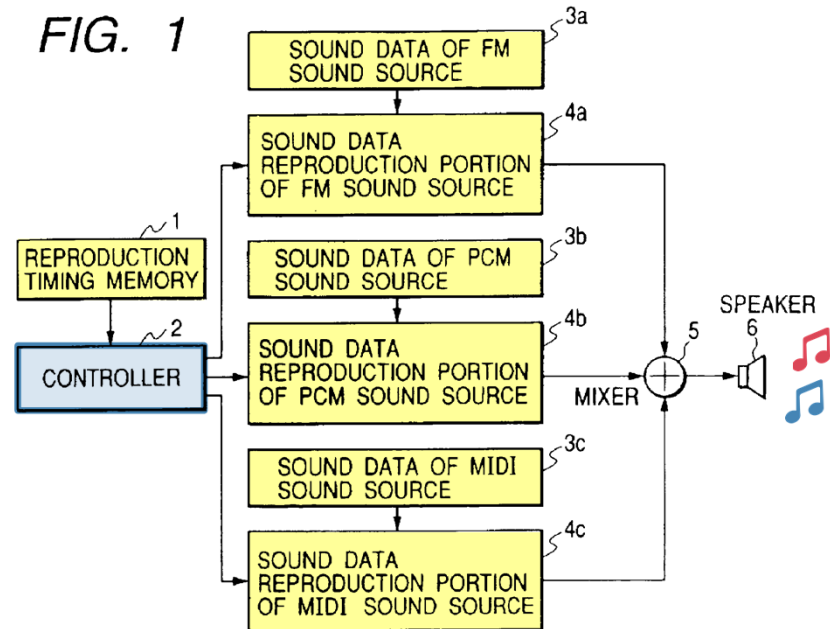


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FIG. 1

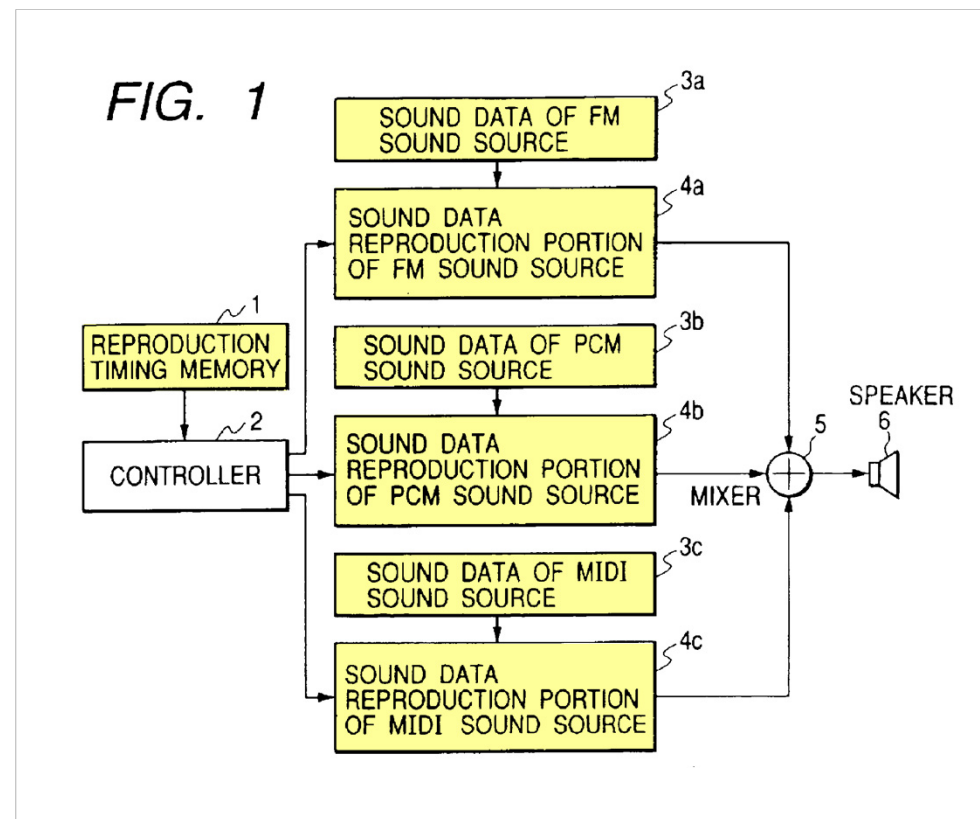


"Ringing sound generator" ('306)

'306 Patent at 4:34-36, Figs. 1, 15 (annotations added)

Figure 1 Shows The Disclosed Structure of “Ringing Sound Generator”

Structure: element 1519 in Figure 15 comprising 1 (timing memory), 3a-3c (multiple data sources), and 4a-4c (multiple reproduction portions) in Figure 1; or equivalents thereof



“Ringing sound generator” (‘306)

‘306 Patent at Figs. 1 (annotations added)

Apple's Construction Properly Defines "Ringing Sound Generator"

Claim Term	Apple's Construction
<p>"ringing sound generator" (Claims 2, 12, 13)</p>	<p>Function: to generate a ringing sound</p> <p>Structure: Element 1519 in Figure 15 comprising 1, 3a- 3c, and 4a-4c in Figure 1; or equivalents thereof</p>

Apple's construction identifies the only structure disclosed in the specification for an otherwise purely functional term.

"Ringing sound generator" ('306)

Maxell's Arguments Against Apple's MPF Construction

1. The specification discloses the "ringing sound generator" structure "numerous times"
2. The parties' experts can identify possible structures capable of generating a ringing sound
3. The specification describes data types other than those shown in Fig. 1

The Only Disclosures of the “Ringing Sound Generator” Structure Are In Figs. 1 and 15 And The Corresponding Text

FIG. 15

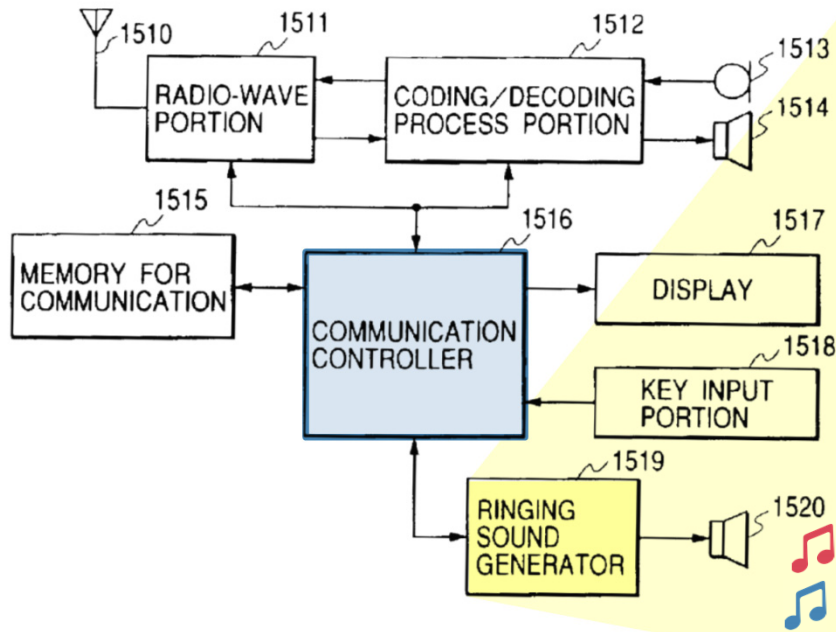
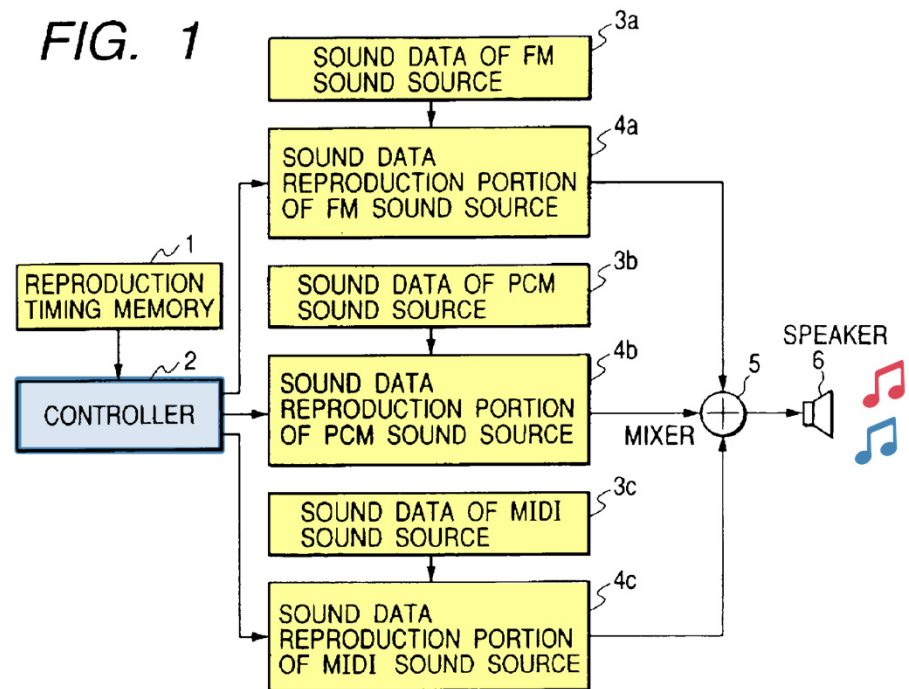


FIG. 1



'306 Patent at Figs. 1, 15 (annotations added)

“Ringing sound generator” ('306)

Maxell's Arguments Against Apple's MPF Construction

- ~~1. The specification discloses the "ringing sound generator" structure "numerous times"~~
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3. The specification describes data types other than those shown in Fig. 1

Listing Possible Structures Is Not Sufficient To Avoid § 112, ¶ 6



“[M]erely listing examples of possible structures is insufficient to avoid invocation of § 112, ¶ 6. Indeed, means-plus-function language that defines a category in functional terms will typically cover examples of structures that fall within it. This is not a basis for distinguishing structural language from § 112, ¶ 6 language.”

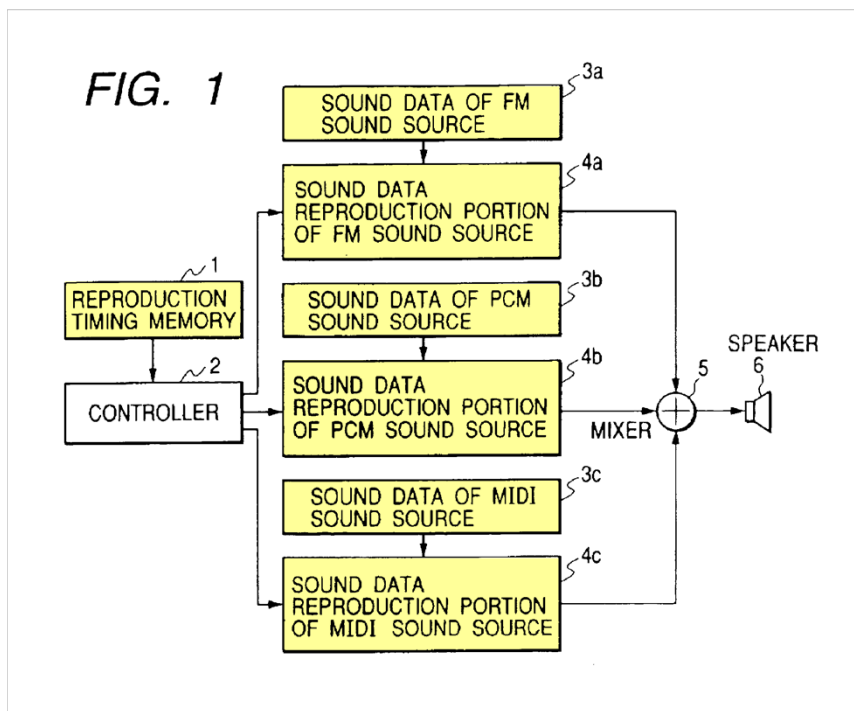
Robert Bosch, LLC v. Snap-On Inc., 769 F.3d 1094, 1101 (Fed. Cir. 2014)

Maxell's Arguments Against Apple's MPF Construction

- ~~1. The specification discloses the "ringing sound generator" structure "numerous times"~~
- ~~2. The parties' experts can identify possible structures capable of generating a ringing sound~~
3. The specification describes data types other than those shown in Fig. 1

The Specification Does Not Disclose Additional Structure, Only Additional Data Types

Structure: element 1519 in Figure 15 comprising 1 (timing memory), 3a-3c (multiple data sources), and 4a-4c (multiple reproduction portions) in Figure 1; or equivalents thereof



respective timings for reproductions thereof, etc. With the sound data numbers, it is assumed that No. 1 corresponds to the sound data of the FM sound source, No. 2 to the sound data of the PCM sound source, and No. 3 to the sound data of the MIDI method, respectively. The sound data should not be restricted only to the above, and also the sound data of the MP3 method can be used, and it may be given by No. 4 as the sound data No. thereof, in such the case. Hereinafter, every time when the sound data is further added to, the sound data number, such as No. 5 or No. 6, is allotted to the added sound data. The pattern numbers can be changed

'306 Patent at 5:1-11.

'306 Patent at Figs. 1 (annotations added)

"Ringing sound generator" ('306)

MPF Construction Should Be Limited To The Disclosed Structure



“The '966 specification discloses use of a generic gradient wave form. Although it states that other wave forms may be used, it fails to specifically identify those wave forms. Thus, under section 112, ¶ 6, claim 12 is limited to use of a generic gradient wave form and its equivalents.”

Fonar Corp. v. Gen. Elec. Co., 107 F.3d 1543, 1551–52 (Fed. Cir. 1997)



“The Federal Circuit has expressly rejected this sort of argument, that one skilled in the art could figure out additional structures. Rather, structures must be actually disclosed in the specification. The two structures discussed above are the only structures identified in the specification for hydraulically maintaining a predetermined ratio of the feed rates.”

Bristol Co. P'ship v. Bosch Rexroth Inc., 684 F. Supp. 2d 1245, 1275 (D. Colo. 2010) (citing *Fonar*).

Maxell's Arguments Against Apple's MPF Construction

- ~~1. The specification discloses the "ringing sound generator" structure "numerous times"~~
- ~~2. The parties' experts can identify possible structures capable of generating a ringing sound~~
- ~~3. The specification describes data types other than those shown in Fig. 1~~

Communication / Authentication

'438 Patent

Walking Navigation



'498 Patent



'317 Patent



'999 Patent

Power Management



'794 Patent



'193 Patent

Notification



'306 Patent



'991 Patent

Communication / Authentication



'438 Patent



'586 Patent

Camera



'493 Patent

Communication / Authentication

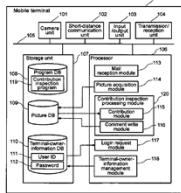
'438 Patent



(12) **United States Patent**
Maeoka et al. (10) Patent No.: **US 7,116,438 B2**
(45) Date of Patent: **Oct. 3, 2006**

(56) **TERMINAL FOR INFORMATION PROCESSING**
(75) Inventors: **Jun Maeoka, Kawasaki (JP); Yoshiaki Morimoto, Kawasaki (JP); Motoaki Satoyama, Sagamihara (JP); Koji Doi, Yokohama (JP); Shinya Iguchi, Fujisawa (JP)**
(73) Assignee: **Hitachi, Ltd., Tokyo (JP)**
(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 196 days.
(21) Appl. No.: **10/747,267**
(22) Filed: **Dec. 30, 2003**
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US 2004/0233621 A1 Nov. 25, 2004
(50) **Foreign Application Priority Data**
May 22, 2003 (JP) 2003-144259
(51) **Int. Cl.** **H04L 15/30** (2006.01)
G06F 15/32 (2006.01)
(52) **U.S. Cl.** **3501.15, 340/333.06; 705/50, 715/750**
(58) **Field of Classification Search** **361/679-687; 361/724-727; 368/333.06; 705/50; 342/81; 713/176; 715/750; 350/1.15, 1.16**
See application file for complete search history.

7 Claims, 10 Drawing Sheets



(12) **United States Patent**
Maeoka et al.

(10) Patent No.: **US 7,116,438 B2**
(45) Date of Patent: **Oct. 3, 2006**

(54) TERMINAL FOR INFORMATION PROCESSING

(75) Inventors: **Jun Maeoka, Kawasaki (JP); Yoshiaki Morimoto, Kawasaki (JP); Motoaki Satoyama, Sagamihara (JP); Koji Doi, Yokohama (JP); Shinya Iguchi, Fujisawa (JP)**

(73) Assignee: **Hitachi, Ltd., Tokyo (JP)**

* * * *

(21) Appl. No.: **10/747,267**

(22) Filed: **Dec. 30, 2003**

* * * *

(30) Foreign Application Priority Data

May 22, 2003 (JP) 2003-144259