

PUBLIC VERSION

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS AMERICA, INC.
Petitioner

v.

KANNUU PTY LTD.
Patent Owner

Case IPR2026-00071
Patent No. 11,573,939

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 11,573,939
UNDER 35 U.S.C § 312 AND 37 C.F.R. § 42.104**

Mail Stop “PATENT BOARD”
Patent Trial and Appeal Board
U.S. Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

TABLE OF CONTENTS

I. INTRODUCTION1

II. TECHNOLOGY BACKGROUND.....2

 A. Predictive Keyboards3

 B. Database Indexing, Searching, and Selection4

III. THE '939 PATENT5

 A. Overview (EX1003, ¶¶43-44)5

 B. Prior IPRs Against Related Patents (EX1003, ¶¶45-50).....5

 C. Prosecution History (EX1003, ¶¶51-64)7

 D. Level of Ordinary Skill in the Art12

IV. CONSTRUCTION OF THE CHALLENGED CLAIM12

V. GROUNDS OF CHALLENGE (37 C.F.R. § 42.204(B)(2))15

VI. GROUND 1: CLAIM 1 IS ANTICIPATED OR RENDERED OBVIOUS BY PERLMAN.....16

 A. *Perlman*16

 B. Claim 117

VII. GROUND 2: CLAIM 1 IS OBVIOUS IN LIGHT OF *PERLMAN* AND *DOSTIE*.....38

 A. *Dostie*.....38

 B. Motivation to Combine *Perlman* and *Dostie*41

 C. Claim 142

PUBLIC VERSION

U.S. Patent No. 11,573,939
Petition for *Inter Partes* Review

VIII. GROUND 3: CLAIM 1 IS OBVIOUS IN LIGHT OF PERLMAN, DOSTIE, AND JOSENHANS.....44

 A. *Josenhans*44

 B. Motivation to Combine *Perlman*, *Dostie*, and *Josenhans*45

 C. Claim 146

IX. GROUND 4: CLAIM 1 IS ANTICIPATED OR RENDERED OBVIOUS BY BADARNEH.....47

 A. *Badarneh* (EX1003, ¶¶133-38)47

 B. Claim 151

X. GROUND 5: CLAIM 1 IS OBVIOUS IN LIGHT OF *BADARNEH* AND *JOSENHANS*.....72

 A. Motivation to Combine *Badarneh* and *Josenhans*73

 B. Claim 173

XI. SECONDARY CONSIDERATIONS75

XII. MANDATORY NOTICES80

 A. Grounds for Standing (37 C.F.R. § 42.104(a))80

 B. Real Party-in-Interest (37 C.F.R. § 42.8(b)(1)).....80

 C. Related Matters (37 C.F.R. § 42.8(b)(2)).....80

 D. Lead and Backup Counsel and Service Information (37 C.F.R. § 42.8(b)(3)-(4))81

 E. Fee for *Inter Partes* Review82

XIII. CONCLUSION.....82

PUBLIC VERSION

U.S. Patent No. 11,573,939
Petition for *Inter Partes* Review

EXHIBIT LIST

No.	Short Name	Exhibit
1001	'939 Patent	U.S. Patent No. 11,573,939
1002	'939 File History	File History of U.S. Patent No. 11,573,939
1003	Madisetti Decl.	Declaration of Vijay Madisetti, Ph.D.
1004	Madisetti CV	Curriculum Vitae of Vijay Madisetti, Ph.D.
1005	<i>Perlman</i>	U.S. Pat. Pub. No. 2002/0113825 A1
1006	<i>Dostie</i>	U.S. Pat. Pub. No. 2004/0021691
1007	<i>Pu</i>	U.S. Patent No. 7,152,213
1008	<i>Josenhans</i>	U.S. Patent Publication No. 2002/0078013
1009	<i>Badarneh</i>	Int'l Patent Pub. No. WO2002/091160
1010	<i>Schroeder</i>	U.S. Patent No. 5,797,098
1011	<i>Strubbe</i>	U.S. Patent No. 5,223,924
1012	<i>Montgomery</i>	U.S. Patent No. 3,309,677
1013	'354 FWD	Final Written Decision, IPR2020-00737, Paper 105 (PTAB Sept. 21, 2021) (filed under seal)
1014	'393 FWD	Final Written Decision, IPR2020-00738, Paper 100 (PTAB Sept. 21, 2021) (filed under seal)
1015	'852 Final Rejection	Final Rejection, Reexamination No. 90/014,760 (July 28, 2022)
1016	'852 PTAB Decision	Decision on Appeal, Reexamination No. 90/014,760 (PTAB Sept. 19, 2023)
1017	'579 Final Rejection	Final Rejection, Reexamination No. 90/014,761 (July 28, 2022)
1018	'579 PTAB Decision	Decision on Appeal, Reexamination No. 90/014,761 (PTAB Sept. 19, 2023)
1019	'354/'393 IPR Appeal	Judgment, <i>Kannuu Pty Ltd. v. Samsung Elecs. Am., Inc.</i> , No. 22-1526 (Fed. Cir. Oct. 11, 2013)

PUBLIC VERSION

U.S. Patent No. 11,573,939
Petition for *Inter Partes* Review

No.	Short Name	Exhibit
1020	'264 Final Rejection	Final Rejection, Reexamination No. 90/014,759 (Sept. 2, 2022)
1021	'264 PTAB Decision	Decision on Appeal, Reexamination No. 90/014,759 (PTAB Sept. 19, 2023)
1022	'252 Patent	U.S. Patent No. 11,200,252
1023		Samsung Document Production SAMSUNG_K_00035577-00035704 (filed under seal)
1024		[<i>intentionally omitted</i>]
1025		Samsung Document Production SAMSUNG_K_00035597 -603 -619 (Original) (filed under seal)
1026		30(b)(6) Deposition Transcript from IPR2020-00737 and IPR2020-00738 (filed under seal)
1027		Samsung's Supplemental Interrogatory Response to Kannuu's Interrogatory in IPR2020-00737 and IPR2020-00738 (filed under seal)
1028		[<i>intentionally omitted</i>]
1029		[<i>intentionally omitted</i>]
1030		[<i>intentionally omitted</i>]
1031		[<i>intentionally omitted</i>]
1032		[<i>intentionally omitted</i>]
1033		KAN-PTAB00001830, Kannuu--Revenue 2010-2018.pdf (filed under seal)
1034		KAN-PTAB00001655 (filed under seal)
1035		KAN-PTAB00001505 (filed under seal)
1036		KAN-PTAB00000236 (filed under seal)
1037		KAN-PTAB00000025 (filed under seal)

PUBLIC VERSION

U.S. Patent No. 11,573,939
Petition for *Inter Partes* Review

No.	Short Name	Exhibit
1038		KAN-PTAB00000910 (filed under seal)
1039		KAN-PTAB00000919 (filed under seal)
1040		KAN-PTAB00000099 (filed under seal)
1041		KAN-PTAB00000118 (filed under seal)
1042		KAN-PTAB00000168 (filed under seal)
1043		KAN-PTAB00000973 (filed under seal)
1044		KAN-PTAB00001095 (filed under seal)
1045		KAN-PTAB00001237 (filed under seal)
1046		KAN-PTAB00000386 (filed under seal)
1047		KAN-PTAB00000989 (filed under seal)
1048		KAN-PTAB00001278 (filed under seal)
1049		KAN-PTAB00001327 (filed under seal)
1050		KAN-PTAB00001323 (filed under seal)
1051		KAN-PTAB00001803 (filed under seal)
1052		KAN-PTAB00001515 (filed under seal)
1053		KAN-PTAB00001796 (filed under seal)
1054		KAN-PTAB00001056 (filed under seal)
1055		KAN-PTAB00001618 (filed under seal)
1056		KAN-PTAB00001661 (filed under seal)
1057		[intentionally omitted]
1058		SAMSUNG-KANNUU-IPRS-00002 (filed under seal)
1059		SAMSUNG-KANNUU-IPRS-00002(Translation) (filed under seal)

CLAIM LIST

1a	A system for selecting items, the system comprising:
1b	an output display of a television;
1c	a remote control keypad with an up, down, left, right, select functionality; and
1d	a computer processor contained within the television configured to:
1e	associate the items with corresponding item identifiers;
1f	generate a first display on the output display, the first display comprises a part of an item identifier corresponding to a first set of items and a part of an item identifier corresponding to a second set of items in a database;
1g	enable selection, by the remote control keypad, of one of the two parts of the item identifiers associated with a selected set of items;
1h	generate, in response to the selection of the one of the two parts of item identifiers, a further display on the output display, the further display comprises an additional part of an item identifier corresponding to a subset of the selected set of items and another additional part of an item identifier corresponding to another subset of the selected set of items;
1i	enable selection, by the remote control keypad, of one of the two additional parts of the item identifiers;
1j	combine the selected one of the two parts of the item identifiers with the selected one of the two additional parts of the item identifiers to create a larger part of the item identifiers; and
1k	display the larger part of the item identifiers on the output display, wherein
1l	the additional parts of the item identifiers are shorter than a complete item identifier,
1m	the first set of items and the second set of items are mutually exclusive of one another, and
1n	the up, down, left, right, select functionality of the remote control keypad enables the selections of parts of item identifiers specifically positioned in a circular menu on the output display.

I. INTRODUCTION

Samsung Electronics America, Inc. (“Samsung” or “Petitioner”) respectfully requests *inter partes* review (“IPR”) of Claim 1 (“Challenged Claim”) of U.S. Patent No. 11,573,939 to Dinn (“the ’939 patent”). The ’939 patent is assigned to Kannuu Pty Ltd. (“Patent Owner” or “Kannuu”) and is the latest patent asserted in the now 5-plus year litigation campaign Kannuu has waged against Samsung.

Kannuu asserted the ’939 patent and another patent, U.S. Patent No. 11,200,252, following its failed first-round, in which it asserted 5 patents related to the ’939 and ’252 patents. Samsung challenged, and invalidated, all 5 of these patents in IPRs and *ex parte* reexaminations. The scope of the claims of these now-invalid patents is substantially the same as the Challenged Claim of the ’939 patent.

The ’939 patent, like each of these patents, describes various techniques for more quickly selecting items from a database, such as names from an electronic telephone address book. EX1001, Abstract. “Items” in the database are indexed by “item identifiers.” *Id.*, Abstract. The four most likely item identifiers are presented on a display screen corresponding to the left, right, up, and down positions of a joystick, sometimes referred to as a 4-way direction-pad or d-pad. *Id.*, Abstract, 4:53-64. The user can then select one of the available displayed item identifiers using the joystick. *Id.*, Abstract.

As described in more detail below, however, Patent Owner did not invent the claimed selection method. In the late 1990s and early 2000s—well before the earliest possible priority date of the '939 patent—significant efforts were being undertaken to make textual input more efficient using input devices with reduced set keyboards, such as mobile telephones and television remote controls. Numerous enhanced user interfaces with “dynamic” displays (that re-positioned letters, groups of letters, or words based on the likelihood of being inputted next) were developed to input textual data more efficiently and without the use of a standard keyboard. These include the *Perlman* and *Badarneh* prior art, which are the primary references presented in this Petition.

For similar reasons as in the prior proceedings involving the related, now invalidated, Kannuu patents—the '354, '579, '852, '393, and '264 patents—the Challenged Claim is invalid.

II. TECHNOLOGY BACKGROUND

The alleged invention described in the Challenged Claim of the '939 patent relates to techniques for more quickly selecting an item from a database, such as a name from an electronic telephone address book. The techniques aim to limit the number of keystrokes needed to traverse the database to the desired item. As acknowledged in the background of the '939 patent itself, there was a well-known problem inputting textual data into on-screen user interfaces without a full keyboard.

EX1001, 1:53-2:47. Mobile phones, PDAs, television remote controls, and set-top boxes all shared this problem. EX1003 ¶36.

A. Predictive Keyboards

The use of on-screen keyboards exploded in the 1990s, thanks to the proliferation of interactive televisions and smart phones. Almost immediately thereafter, user interface designers began working on ways to simplify and expedite textual input using the on-screen keyboards. EX1003 ¶¶37. *Schroeder* (EX1010), filed in 1995, describes an improved mobile telephone user interface with both a predictive keyboard input method and automatic word completion. EX1010, 1:39-45, 4:20-6:15. *Schroeder's* predictive method is shown in Figures 1A and 4:

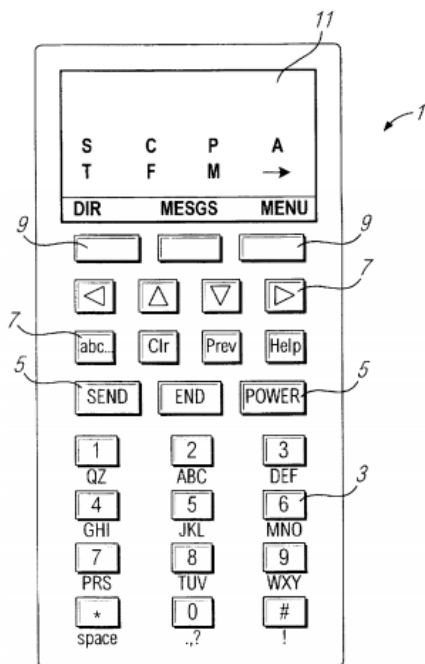


FIG. 1A

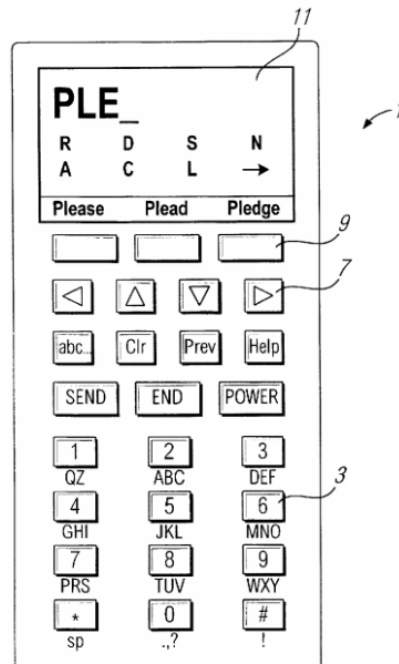
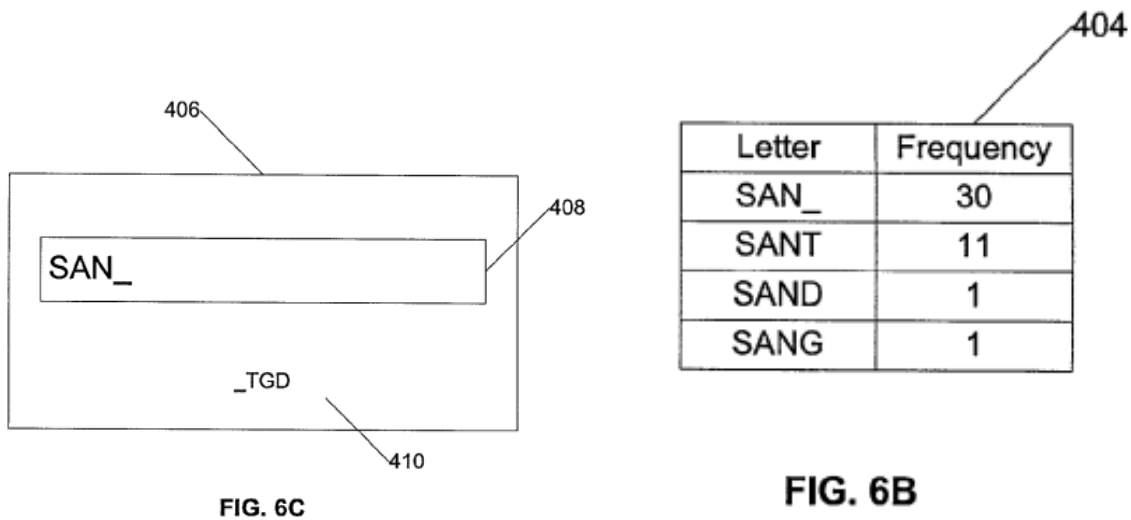


FIG. 4

Pu (EX1007) also relates to an improved user input interface that uses “dynamic key assignment” and “a predefined list that is presented to a user in an arrangement that statistically reduces the number of keystrokes required for data entry.” EX1007, Title & Abstract. As shown in Figures 6C and 6B, as a user is inputting characters into the display, tables are created listing the possibilities for the next character input according to the frequency of that input.



Letter	Frequency
SAN_	30
SANT	11
SAND	1
SANG	1

FIG. 6B

In one embodiment of *Pu*, a four-direction (up, down, left, and right) shuttle control system is used as the input mechanism. *Id.*, 7:59-8:4; EX1003 ¶¶38-39.

B. Database Indexing, Searching, and Selection

Databases have been used to store information, such as names, addresses, and messages for decades before the '252 patent. EX1003 ¶¶40-42. Almost immediately after databases for storing vast amounts of information were developed, methods for automatically indexing and searching the information were developed. *Id.*; EX1012.

Strubbe (EX1011), filed in 1992, discloses “program information databases” for television programs that are automatically correlated with the preferences of the user. EX1011, 4:17-5:32. A user browses the data in the databases by specifying one or more of these indices. *Id.* A “free text” search field also allows users to perform simple database queries and display the results. *Id.*, 5:48-6:24.

By 1995, “[t]he implementation of such dictionary trees or lookup tables in the computer arts [was] well known.” EX1009, 7:10-25.

III. THE '939 PATENT

A. Overview (EX1003, ¶¶43-44)

The '939 patent relates to a method and apparatus for selecting database items from a database. EX1001, Abstract. Database items are indexed by item identifiers, such as text. *Id.* A user may select one or more parts of an identifier from a display, where the one or more parts may be selected by adding to the previously selected one or more parts to build a larger part or whole of an item identifier. *Id.*

In an embodiment, the user opens the address book application and is presented with “4 strings in a circular menu indicating the strings are selected by movements of the joystick in the directions left, right, up and down.” *Id.*, 4:56-64.

B. Prior IPRs Against Related Patents (EX1003, ¶¶45-50)

The '939 patent is a continuation of U.S. Patent No. 9,436,354, 8,996,579, and 8,676,852. It is also related to U.S. Patent No. 8,370,393, which is likewise a continuation of an earlier application in the '939 patent's priority chain. Each of the

PUBLIC VERSION

U.S. Patent No. 11,573,939
Petition for *Inter Partes* Review

'354, '579, '852, and '393 patents were previously asserted by Kannuu in the co-pending district court case.

The PTAB invalidated the '354 and '393 patents in IPR2020-00737 (EX1013) and IPR2020-00738 (EX1014), respectively, and the '852 and '579 patents were invalidated in Reexamination Nos. 90/014,760 (EX1015, EX1016) and 90/014,761 (EX1017, EX1018), respectively. The Federal Circuit summarily affirmed the '354 and '393 patent IPRs.

The claims of the '939 patent have substantially the same scope and closely map to the claims of these earlier, invalidated patents.

Moreover, the invalidating prior art in each of these proceedings overlaps with the art presented herein.

- In IPR2020-00737, the PTAB found the claims of that patent anticipated by *Perlman* and obvious over *Perlman* in view of *Dostie* and *Perlman* in view of *Pu*. EX1013 at 105.
- In IPR2020-00738, the PTAB found the claims of that patent anticipated by *Perlman*, anticipated by *Pu*, and obvious over combinations of *Perlman* in view of *Dostie*, *Pu* in view of *Dostie*, and *Pu* in view of *Perlman*. EX1014 at 90.
- In the '852 patent *ex parte* reexamination, the Examiner rejected—and the PTAB affirmed—the claims over combinations of *Badarneh* in view of *Josenhans* and *Schroeder* in view of *Josenhans*. EX1015.

- In the '579 patent *ex parte* reexamination, the Examiner rejected the claims over the same combinations. EX1017.

Thus, all of the art presented herein has been previously shown, in the PTAB, CRU, and Federal Circuit, to invalidate the claims of related patents with substantially similar claims. For the same reasons as in those cases, the claims of the '393 patent are invalid as shown below.

Kannuu also previously asserted U.S. Patent No. 9,697,264. EX1022. The '264 patent was invalidated in Reexamination No. 90/014,759 (EX1020, EX1021). The claims of the '264 patent were found to be invalid based on combinations of *Perlman* in view of *Dostie*, *Josenhans*, *Krohn*, and *Badarneh*; *Badarneh* in view of *Josenhans*; and *Schroeder* in view of *Josenhans*. EX1020.

C. Prosecution History (EX1003, ¶¶51-64)

The '939 patent was filed on August 13, 2019 and is the latest in a long chain of patents, discussed above. The '939 patent claims the benefit of AU2005904378, filed August 12, 2005.¹ EX1001; EX1002, 675.

On May 21, 2020, the applicant filed a preliminary amendment, cancelling all pending claims (1-35) and adding claims 36-55. EX1002, 597-605. Eventually, only

¹ For the purposes of this Petition only, Petitioner has assumed the '939 patent is entitled to priority to its August 12, 2005 foreign filing date.

PUBLIC VERSION

U.S. Patent No. 11,573,939
Petition for *Inter Partes* Review

claim 55 was allowed. However, the applicant's remarks regarding the other two independent claims (claims 36 and 48) merit discussion. Claims 36 and 48 had similar scope to claim 55, except then-claim 55 required a “directional input device with an up, down, left, right *functionality*” and further required two different parts of item identifiers that correspond to “mutually exclusive” sets of items. *Id.*.

On November 25, 2020, the Examiner issued a non-final Office Action rejecting claims 36-55 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the claims of U.S. Patent Nos. 8,140,560, 8,375,058, 8,876,852, 8,996,579, 8,370,393, 9,436,354, 9,836,489 and App. No. 16/927/723. *Id.*, 482-508. The Examiner also rejected claims 36-40 and 42-47 under pre-AIA § 102(b) as being anticipated by *Perlman*, rejected claim 41 under pre-AIA § 103(a) as being obvious over *Perlman* in view of *Dostie*, rejected claims 48-50 and 52-54 as being obvious over *Perlman* and *Kraft* (U.S. Patent Pub. 2003/0095102, on May 22, 2003), rejected claim 51 as being obvious over *Perlman* in view of *Kraft* and *Dostie*. Notably, the examiner found claim 55 to have allowable subject matter after the double patenting issue was resolved. *Id.*, 508-523.

On May 24, 2021, the applicant filed a response submitting a terminal disclaimer, amending claim 43 to overcome § 112 issues (but no amendment to any other claims), and arguing that claims 36-54 were patentable over the cited art. *Id.*, 454-465. Kannuu argued that “[i]ndependent claims 36 and 48 require *no more than*

PUBLIC VERSION

U.S. Patent No. 11,573,939
Petition for *Inter Partes* Review

four options on the input device itself that can be used to select the portions of item identifiers.” *Id.*, 464. Notably, Kannuu did not make this argument for claim 55. And according to Kannuu, “*Perlman* only discloses a user interface with *more than four* different options when there are more than four potential characters for selection.” *Id.*

On June 24, 2021, the examiner disagreed, stating that “there is no explicit requirement in each claim that there must only be four options (*emphasis added*), each option being associated with a respective up, down, left, or right position of the input device. In fact, the claimed language merely requires the possible arrangement of each option on a possible directional position.” EX1002, 325.

In response, on December 20, 2021, the applicant amended claim 36 to require “an input device comprising a four way directional controller with an up, down, left, and right key” and claim 48 to require “a remote control comprising a four way up, down, left, right directional controller.” EX1002, 309, 312. The applicant argued that the amendments “clarify that the claims require no more than four options on the input device itself that can be used to select the portions of item identifiers.” EX1002, 316. At the same time, the applicant submitted an IDS containing the ’354 FWD and ’393 FWD in IPR2020-00737 and IPR2020-00738, along with the reexamination requests and decisions granting reexamination in reexamination Nos. 90/014,759, 90/014,760, and 90/014,761. *Id.*, 150.

PUBLIC VERSION

U.S. Patent No. 11,573,939
Petition for *Inter Partes* Review

On March 15, 2022, the examiner nevertheless rejected the claims under a combination of Perlman and Krohn, arguing that Krohn discloses an input device with only four directions. EX1002, 126-144.

In response, on September 14, 2022, the applicant cancelled all claims except claim 55, which had not been amended to include the “four way” language and which the examiner had previously indicated would be allowed following the filing of a terminal disclaimer. EX1002, 114-17.

The examiner and the applicant conducted an interview where the examiner proposed additional amendments which the applicant agreed to. The amendments (1) replaced the term “directional input device” with “remote control keypad,” (2) added that the remote control have “select functionality,” (3) clarified that the selection is made “by the remote control keypad,” and (4) clarified that the parts of item identifiers are “associated with a selected set of items.” EX1002, 13-15.

In the Notice of Allowance, the examiner explained that the art discloses the following:

- Perlman et al. (*Pub. No. US 2002/0113825*) teaches selecting a first group of characters to be mapped to a group of remote control buttons based on how probable it is that individual characters within the first group correspond to a first character of a word representing information sought by a user in a database; and mapping the first group of characters to the group of remote control buttons. *Id.*, 15.

PUBLIC VERSION

U.S. Patent No. 11,573,939
Petition for *Inter Partes* Review

- Krohn et al. (*Pat. No. US 6,593,913*) teaches selecting a character with a user input device comprising a plurality of buttons. A first plurality of characters is displayed on a display device in a pattern corresponding to a pattern of a plurality of buttons of a user input device, and a character from the first plurality of characters is selected in response to actuation of one of the plurality of buttons to sequentially enter a series of characters and using a character selection method to enter characters of a predetermined word. *Id.*, 15.
- Dostie et al. (*Pub. No. US 2004/0021691*) teaches enabling a user to rapidly enter and search for data, such as text, using a data entry system by entering one or more characters on a digital keyboard with a pointing device. As the user enters a character sequence, a mechanism for character prediction visually informs the user of which set of characters on the digital keyboard are most likely to have the character that the user wishes to next enter as part of the text. The data entry system retrieves completion candidates from the dictionary by determining which completion candidates in the dictionary are more likely to be the ones that the user is attempting to type. *Id.*, 15-16.
- Josenhans (*Pub. No. US 2002/0078013*) teaches allowing simultaneous access to two or more databases, a search term is entered; on the basis of the entered search term, the search term itself from each of the databases are stored in a search table, and the search term, if stored in the search table, or that term from the successors stored in the search table which comes closest after the entered search term is displayed. *Id.*, 16.
- Schroeder et al. (*Pat. No. US 5,797,098*) teaches a predictive keyboard input method for speeding up input on a telephone with a space limited keyboard and a global search method for searching text strings in all of the different

memory sections of a cellular telephone having an address book, a hierarchical menu structure, and stored data messages. *Id.*, 16.

The Examiner did not identify any element of the issued claim allegedly missing from any of the prior art references. Notably, the Examiner did not address at all the *Badarneh* primary reference used in this Petition. Regardless, as to the references the Examiner did address, the Examiner erred in concluding that this art, alone or in combination, does not anticipate and/or render obvious the sole claim of the '939 patent. As shown below, each of the limitations of the claim is clearly disclosed in the prior art and a POSITA would have been motivated to combine the art to reach the claimed invention.

D. Level of Ordinary Skill in the Art

The '939 patent claims priority to Australian App. No. 2005/904378, filed August 12, 2005. A person of ordinary skill in the art (“POSITA”) at that time would have had at least an undergraduate degree in electrical engineering, computer science, or physics (or a related field, such as computer engineering, human-computer interaction, or industrial design) and 3 years of work experience with input interfaces to electronic devices. EX1003 ¶¶18-23. Petitioner’s expert was at least a POSITA at the time of the alleged invention. *Id.*

IV. CONSTRUCTION OF THE CHALLENGED CLAIM

In an *inter partes* review, claims are “construed using the same claim construction standard that would be used to construe the claim in a civil action under

PUBLIC VERSION

U.S. Patent No. 11,573,939
Petition for *Inter Partes* Review

35 U.S.C. 282(b).” 37 C.F.R. §42.100(b). Claims must be given their ordinary and customary meaning as understood by one of ordinary skill in the art at the time of the invention in light of the specification and the prosecution history pertaining to the patent. *Id.*; *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-1313 (Fed. Cir. 2015) (*en banc*); see also 83 Fed. Reg. 51,340.

With respect to the limitations “a remote control keypad with an up, down, left, right, select functionality” and “enable selection, by the remote control keypad, of one of the two parts of the item identifiers associated with a selected set of items,” Kannuu has previously attempted to narrowly construe similar limitations. In IPR2020-00738, the challenged ’393 patent recited the limitations “up, down, left, right, select functionality of an input directional controller of the device” and “first plurality of portions of item identifiers is displayed in a position corresponding to an up, down, left, right select functionality of an input directional controller of the device.” Kannuu sought to construe these terms to narrowly require “no more than four directional selection options on the input direction controller to select an item identifier.” EX1014, 20-21. However, citing the claim language and the specification, the Board rejected this construction as an improper attempt to import an embodiment in the specification into the claims, to the exclusion of other embodiments. *Id.*, 25-29.

PUBLIC VERSION

U.S. Patent No. 11,573,939
Petition for *Inter Partes* Review

Petitioner expects that Kannuu will raise a similar argument here. Just as the Board adopted a plain language construction of this limitation in IPR2020-00738, rejecting Kannuu’s attempt to limit the claims to positioning *only* in four directional options, the Challenged Claim here should be construed according to its plain language. EX1003, ¶¶66-67. The claims derive from a common specification, so there is no additional intrinsic basis for construing the Challenged Claim differently than the invalidated claims. *See, e.g.*, EX1013, 23-33. Indeed, the Board would need to provide a “detailed explanation” if it were to stray from its previous construction. September 16, 2025 Stewart Memorandum.

In further support of this construction, as discussed above, the applicant amended then-pending claims (which were never allowed) to cite a remote controller with a “*four way* directional controller.” EX1002, 309, 312; EX1003, ¶¶68-69. The applicant argued that such language “clarif[ies] that the claims require no more than four options on the input device itself that can be used to select the portions of item identifiers.” EX1002, 316. However, such language did not make it into the eventual allowed claim, and the applicant never argued that the allowed claim requires only four options (indeed, on their face, the claims require *five* options—four directional and a select functionality).

Nor can Kannuu argue that the remarks made during prosecution amount to a “clear and unmistakable disclaimer.” *Thorner v. Sony Computer Entertainment*

PUBLIC VERSION

U.S. Patent No. 11,573,939
Petition for *Inter Partes* Review

America LLC, 669 F.3d 1362, 1366-67 (Fed. Cir. 2012). As discussed above, the applicant attempted to argue that the original claims 36 and 48 should be interpreted as requiring only four options, a position the examiner disagreed with and which the applicant responded by amending the claims. That the applicant acceded to the examiner's remarks by amending the claims indicates that its original statement was not a clear and unmistakable disclaimer. Moreover, such remarks were not directed to the claim that was eventually allowed (claim 55). Nor is applicant's amendment to then-pending claims 36 and 48 to add a "four way directional controller" any sort of disclaimer, as the applicant never applied those amendments to the allowed claim.

But even if the Board were to construe the term to require no more than four direction options, the claims would be anticipated or rendered obvious by *Baderneh*.

Petitioner submits that no other claim terms require construction for the resolution of this Petition. EX1003, ¶65.

V. **GROUND OF CHALLENGE (37 C.F.R. § 42.204(B)(2))**

Petitioner requests *inter partes* review and cancelation of the challenged claim on the following grounds (EX1003, ¶¶70-71):

Grounds	Claim	Statute	Prior Art
1	1	§102 or §103	<i>Perlman</i>
2	1	§103	<i>Perlman and Dostie</i>
3	1	§103	<i>Perlman, Dostie, and Josenhans</i>

Grounds	Claim	Statute	Prior Art
4	1	§102 or §103	<i>Badarneh</i>
5	1	§103	<i>Badarneh and Josenhans</i>

Grounds 1-3 rely on *Perlman* as a primary reference. Grounds 4-5 rely on *Badarneh* as a primary reference. Petitioner challenges claim 1 of the '939 patent and requests that this claim be found unpatentable in view of the cited references.

VI. GROUND 1: CLAIM 1 IS ANTICIPATED OR RENDERED OBVIOUS BY PERLMAN

A. *Perlman*

Perlman (EX1005) describes a system for entering characters on a user input interface for a television remote control, with buttons arranged in a “star” pattern. EX1005, ¶[0014]; EX1003, ¶72. *Perlman*'s Figure 1B depicts a remote control with function buttons 101, which are mapped to Figure 2's characters in buttons 110 displayed on television/computer display 105. The mapped characters correspond to “the most common first letters of words in the database list 120.” *Id.*, ¶[0017].

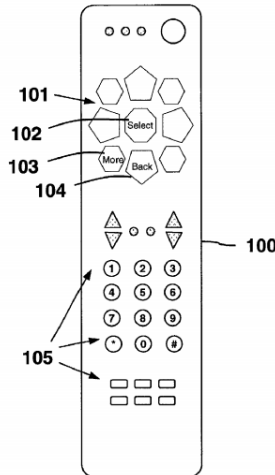


FIG. 1b

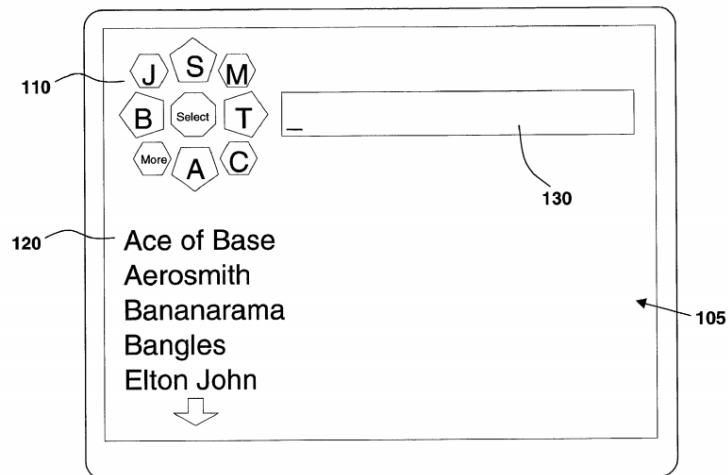


FIG. 2

B. Claim 1

Perlman anticipates and/or renders obvious the Challenged Claim. Should the Board construe elements *If* and *Im* as requiring tree-structured databases or separate databases, *Dostie* and *Josenhans* disclose them, as explained in Grounds 2 and 3. EX1003, ¶73.

1. 1a: A system for selecting items, the system comprising

Perlman is directed to an “apparatus and method for *selecting data*,” including an embodiment that “allows [a] user to rapidly enter alphanumeric characters (or other types of symbols) without looking away from the television/computer screen.” EX1005, Title, ¶[0014]. A piece of desired content is an *item*, its title is an *item identifier*, and a letter or number (alphanumeric character/symbol) is a *part of item identifier*, which is used to select the desired content from a database of multimedia content (*plurality of items*). *Id.*, ¶[0017].

Perlman discloses databases of *items* (EX1005, ¶¶0004, ¶¶0017), Figs. 2, 7, 8) and displaying for selection “character-mapped buttons 110” (*i.e.*, *part of an item identifier*) for a “database list 120” (*i.e.*, *an item identifier*) (*Id.*, ¶¶0017), Fig. 2). EX1003, ¶74.

In the '354 patent IPR FWD, the PTAB found that *Perlman* disclosed “[a] method of selecting database items from a database, the database items being indexed by a list of item identifiers.” EX1013, 36. This preamble in the claim 1 of the '354 patent is substantially identical to limitation *Ia* in the '939 patent, and is of at least the same scope. EX1003, ¶75.

2. *Ib: an output display of a television;*

Perlman teaches user interaction “without looking away from the television/computer screen,” which is the *output display of a television.*” EX1005, ¶¶0014], Fig. 2; EX1003, ¶76.

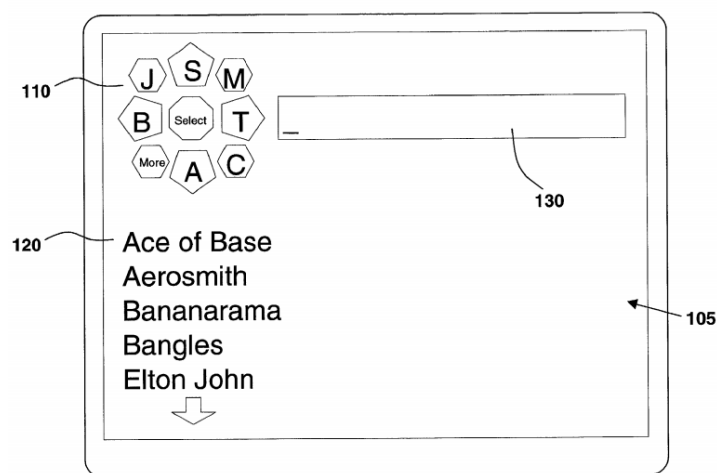


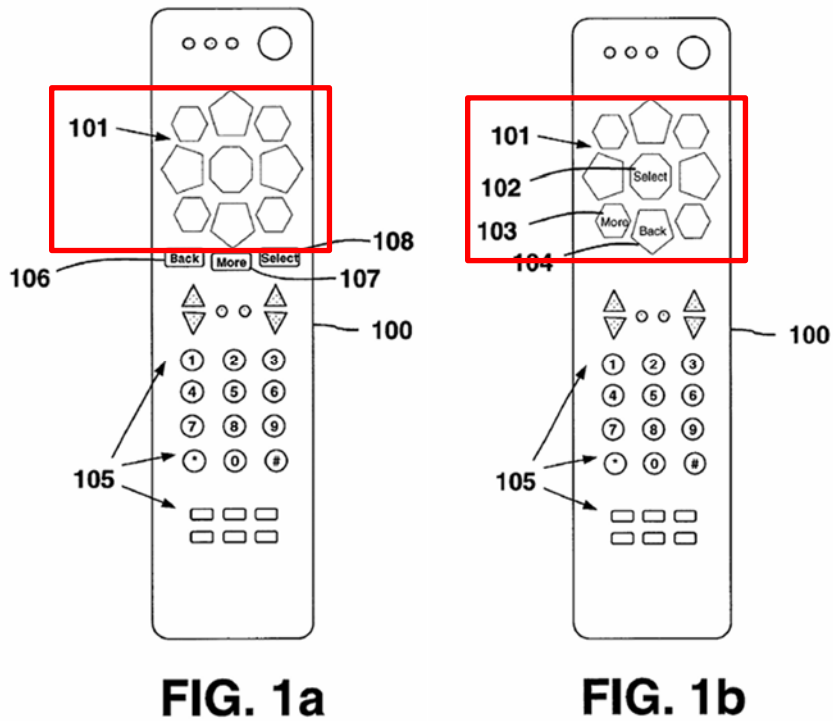
FIG. 2

Id., Fig. 2.

In the '393 patent IPR FWD, the PTAB found that *Perlman* disclosed “wherein the computing device is a television.” EX1014, 70. This limitation of claim 11 the '393 patent is substantially identical to limitation *1b* in the '939 patent and is of at least the same scope. EX1003, ¶77.

3. *1c: a remote control keypad with an up, down, left, right, select functionality; and*

Perlman Figures 1a and 1b depict a *remote control keypad* with functional buttons in a star pattern, which enable *up, down, left, right, select functionality*. Specifically, the remote control keypad has “directional and functional buttons 101” and “a ‘select’ button 108 for making various types of data selections.” EX1005, ¶[0014]. The “directional and functional buttons 101” have directional functionality. EX1003, ¶78.



In the '354 patent IPR FWD, the PTAB also found that *Perlman* disclosed “an apparatus and method for entering characters and selecting data using a remote control device.” EX1013, 34. The PTAB found that *Perlman* disclosed a limitation requiring “wherein the further one of more parts of item identifiers being arranged on the display relative to one another and corresponding to at least an up, down, left or right position.” *Id.*, 38-42. These limitations of the '354 patent are of identical scope to limitation *1c* in the '939 patent. EX1003, ¶79.

4. *1d: a computer processor contained within the television configured to:*

Perlman's exemplary Figure 2 shows that the function buttons on the *remote control keypad* are “mapped to the characters in buttons 110 displayed on

television/computer display.” EX1005, ¶[0014], Figs. 1b and 2. *Perlman* further discloses that the user interface is displayed by the television using “a general-purpose or special-purpose processor to perform the steps,” *i.e.*, a **computer processor**. EX1003, ¶¶80-81; EX1005, ¶37.

5. *Ie: associate the items with corresponding item identifiers;*

Perlman teaches that a user can select a desired **item** by using the character-mapped buttons of the remote control device to enter characters, *i.e.* **parts of an item identifier**, which then brings up larger parts of **item identifiers** (specifically, multimedia titles) that begin with the input character associated with the desired item. EX1005, ¶¶[0014-0017], Fig. 2. *Perlman* teaches that these titles are **associated** with “multimedia programs/files” (*i.e.* **items**) in a database, and the titles populate the database list displayed on the television. *Id.* (“[O]nly those multimedia programs/files **with titles** which begin with the selected characters will be displayed in the list 120.”), ¶[0019] (“characters corresponding to that program”); EX1003, ¶82.

To the extent PO argues this limitation is not expressly disclosed, a POSITA would have found it obvious to associate multimedia files with their titles in the database. *Perlman* teaches that its invention is directed to “selection of media” and “multimedia selections.” EX1005, ¶¶[0002], [0019]. To give effect to such teachings, a POSITA would have been motivated to associate multimedia files with

their corresponding titles in order to allow a user to select the desired multimedia file following entry of characters corresponding to the title. EX1003, ¶83. The user would both desire and expect such behavior. A POSITA would have had a reasonable expectation of success as implementing such functionality would simply involve including rows in the database that map media titles with media files, which is well-within the skill of an ordinary artisan. EX1003, ¶83.

6. ***If: generate a first display on the output display, the first display comprises a part of an item identifier corresponding to a first set of items and a part of an item identifier corresponding to a second set of items in a database;***

Perlman depicts a GUI with character-mapped buttons 110 in a “star” configuration corresponding to the same “star” configuration on a remote control input device to a television/computer. EX1005, ¶[0014]; Figs. 2-8. Other configurations are also expressly disclosed. *Id.*, ¶[0016]; EX1003, ¶84.

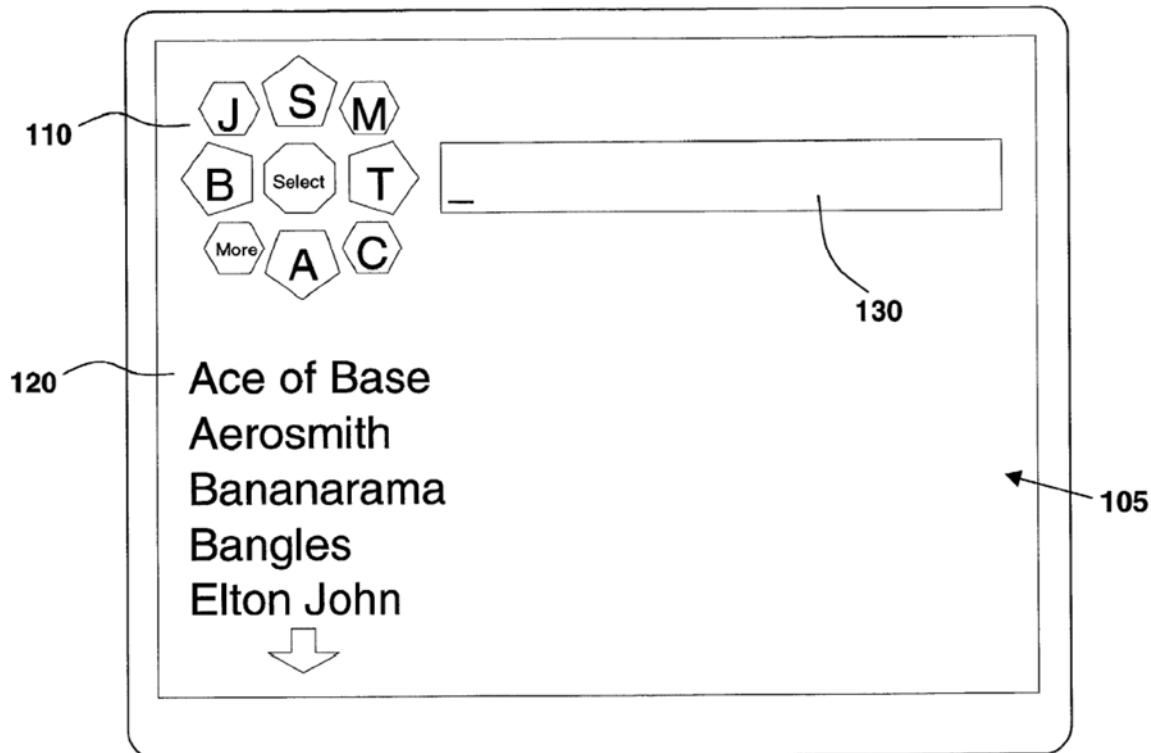


FIG. 2

Id., Fig. 2.

The “character-mapped buttons 110” each have a character, *i.e.* ***a part of an item identifier for at least a first set of items and a part of an item identifier for at least a second set of items in a database.*** EX1003, ¶85. The characters shown in Figure 2 correspond to the “most common first letters of words in the database list 120,” which corresponds to “available multimedia content” accessible by the television/computer. EX1005, ¶[0017].

This limitation is met in two different ways. First, character on the button (*i.e.* ***part of an item identifier***) is associated with a corresponding set of titles (*i.e.* ***item identifiers***) which is displayed as the “database list 120,” *e.g.* the letter “A” corresponds to a ***first set of item identifiers*** beginning with the letter “A” (“Ace of Base” and “Aerosmith”) and the letter “B” corresponds to a ***second set of item identifiers*** beginning with the letter “B” (“Bananarama” and “Bangles”). EX1003 ¶86. Thus, each displayed ***part of an item identifier is for a different set of items in the database.***

Second, although Figure 2 shows titles from a database containing multimedia content, *Perlman* is “not limited to any particular type of database” and in fact describes other types of content databases, such as those for television “program content” (EX1005, ¶[0004]), “multimedia programs/files” (*id.*, ¶[0017]), and “MP3 music” titles (*id.*, Figs. 7-8). Each type of database includes a different set of items, enabling the display of ***parts of item identifiers*** from first, second, or more ***sets of items in database.*** EX1003, ¶87.

To the extent PO argues these disclosures are from disparate embodiments, a POSITA would have also considered it obvious to allow the search and display of different types of content, including television content, multimedia programs/files, and MP3 music as disclosed in *Perlman*. A POSITA would be motivated to do so as it would provide additional, desirable functionality, including the ability to search

a wide variety of content. EX1003, ¶88. A POSITA would have had a reasonable expectation of success in doing this, as it would simply involve following *Perlman*'s disclosures for searching different types of media databases, but done for a single search string. *Id.* This would have been well-within the skill of an ordinary artisan.

7. ***Ig: enable selection, by the remote control keypad, of one of the two parts of the item identifiers associated with a selected set of items;***

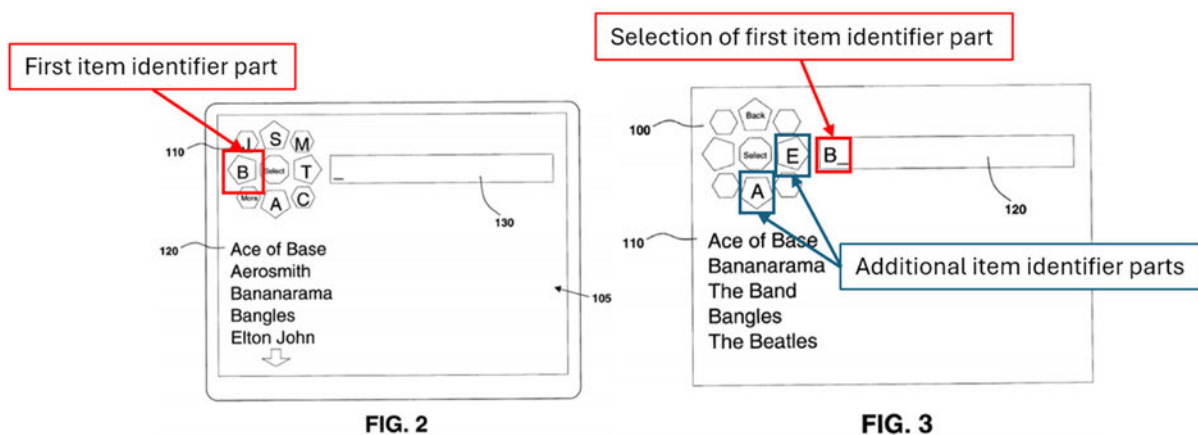
Perlman teaches that a user *selects* a character (*i.e. part of an item identifier*) from the GUI using the character-mapped buttons of the *remote control keypad*. EX1005, ¶[0017]. Thus, the user has *selected one of the two parts of an item identifier*. EX1003, ¶89.

In the '393 patent IPR FWD, the PTAB found that *Perlman* disclosed a limitation requiring “enabling, by the at least one computer processor, selection of one of the first plurality of portions of the item identifiers by using the up, down, left, right, select functionality of the directional controller on the input device.” EX1014, 39-40. This limitation of claim 1 the '393 patent has the same scope as limitation *Ig* in the '939 patent. EX1003, ¶90.

8. ***Ih: generate, in response to the selection of the one of the two parts of item identifiers, a further display on the output display, the further display comprises an additional part of an item identifier corresponding to a subset of the selected set of***

items and another additional part of an item identifier corresponding to another subset of the selected set of items;

Perlman discloses that after the user selects an initial character (*i.e. one of the two parts of the item identifiers*), a different set of item identifiers is displayed on character-mapped buttons 110, as shown in Figures 2 and 3 of *Perlman*. EX1005, ¶¶0017]; EX1003, ¶91.



Id., Figs. 2 & 3.

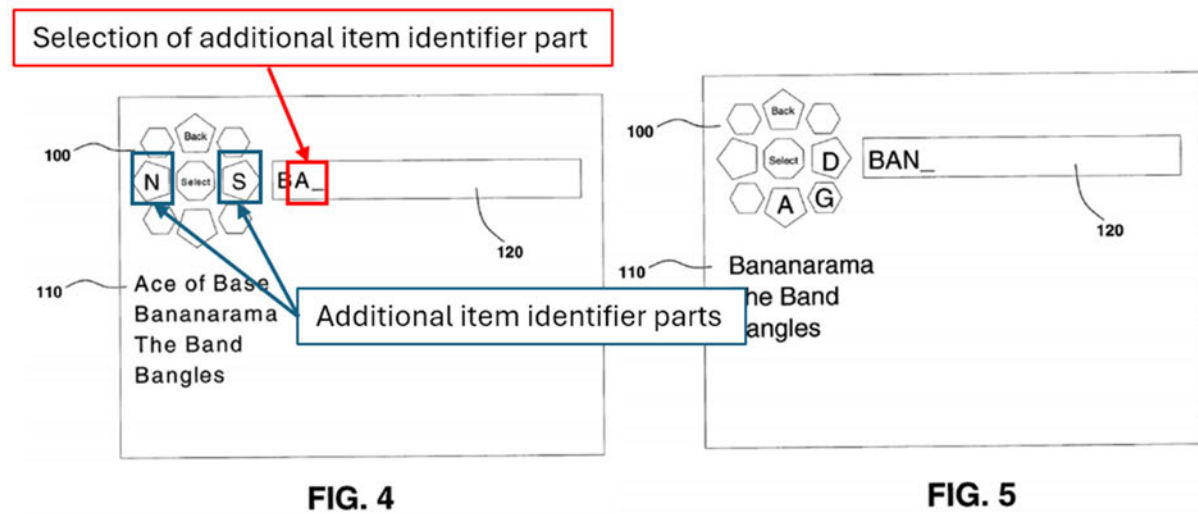
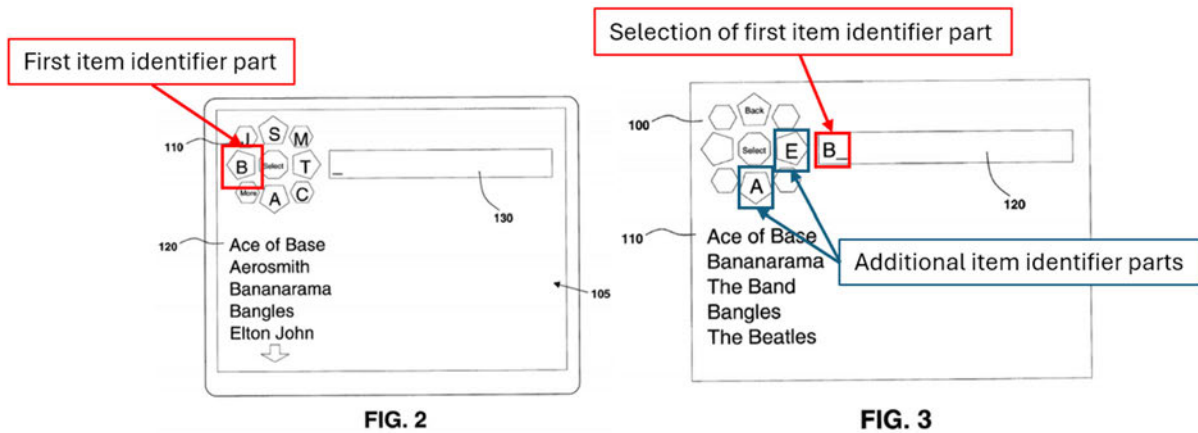
Once the user selects “B” (*i.e. first part of an item identifier*) database list 110 is updated to reflect database items whose full *item identifier* begins with “B.” *Id.*, ¶¶0025]. Figure 3 then shows “A” and “E” as options on the same character-mapped buttons 100, which are *second parts of item identifiers* offered to the user. The item identifiers correspond to *one subset of items* that have an item identifier beginning with “BA,” offering the user “Bananarama” and “Bangles,” and to a *second subset of items* that have an item identifier beginning with “BE,” offering

the user “Beatles.” “BA” and “BE” are *parts of item identifiers* drawn from the database and displayed as *items* starting with “BA,” one *subset of the selected set of items* and the *items* starting with “BE,” *another subset of the selected set of items*. *Id.*; EX1003, ¶92.

In the ’354 patent IPR FWD, the PTAB found that *Perlman* disclosed a limitation requiring “in response to the selection of the one or more parts of item identifiers, generating a display of a further one or more parts of item identifiers for selection, the further one of more parts being selected for display based at least in part on a ranking scheme wherein the further one of more parts of item identifiers being arranged on the display relative to one another and corresponding to at least an up, down, left or right position.” EX1013, 39-42. This limitation of claim 1 the ’354 patent is of identical scope to limitation *1h* in the ’939 patent. EX1003, ¶93.

9. *1i: enable selection, by the remote control keypad, of one of the two additional parts of the item identifiers;*

Perlman discloses that after the user selects “B,” a new set of *parts of item identifiers* is automatically mapped to the character-mapped buttons to be selected using the *remote control keypad*. EX1005, ¶¶[0017], [0025]; EX1003, ¶94.



Id., Figs. 2-5.

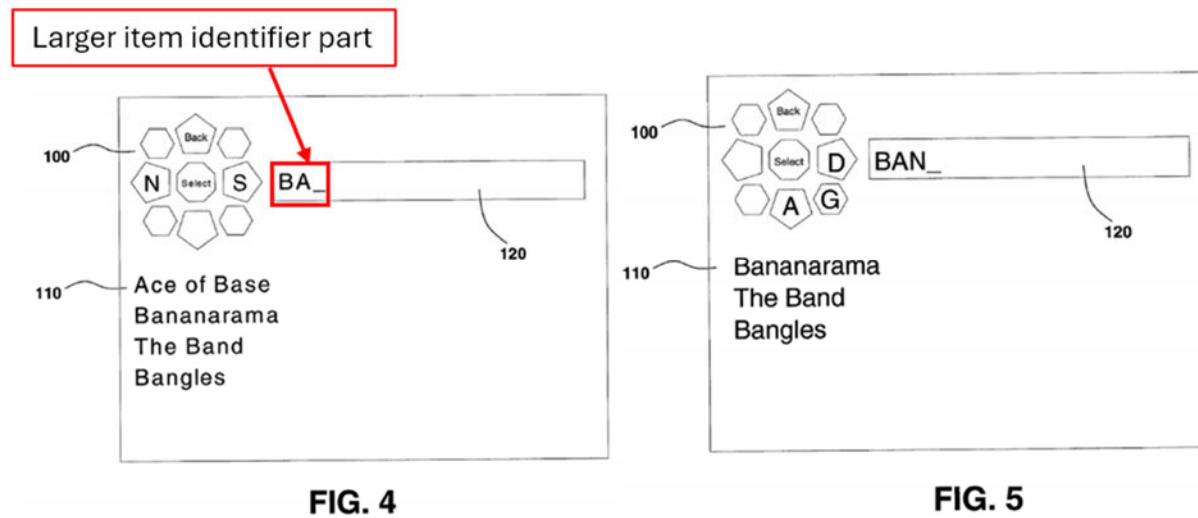
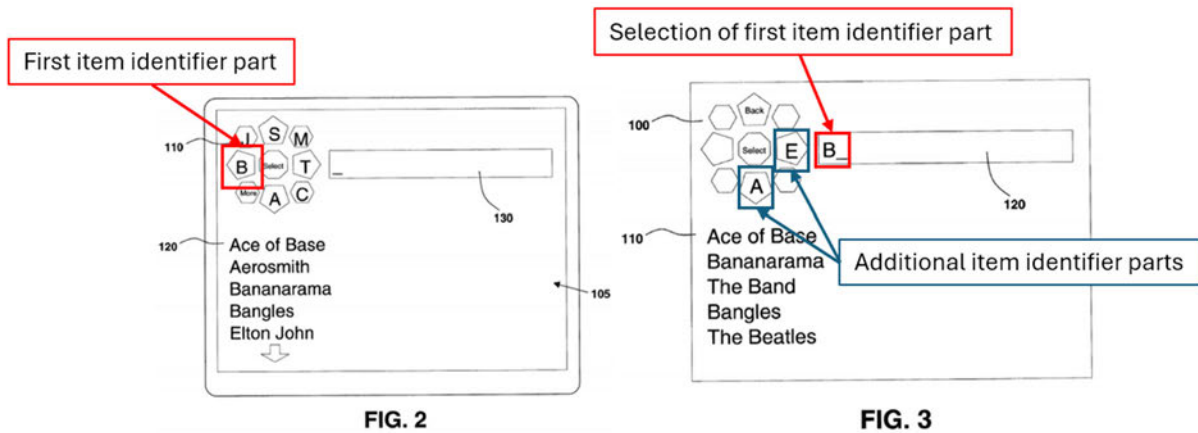
Perlman depicts in Figures 2 through 5 a progressive process involving user interaction with the *remote control keypad*. EX1003, ¶95. As the user selects additional characters (*i.e. selects additional parts of the item identifiers*), the displayed item identifiers corresponding to database *items* changes, progressing from the first choice of “B,” to “BA” and “BE” (the user chose “BA”), then to “BAN” and “BAS” (the user chose “BAN”), and finally “BANA,” “BAND,” and

“BANG.” Thus, this example involves at least four layers of *additional parts of item identifiers*. *Id.*, ¶¶[0025]-[0026].

In the '354 patent IPR FWD, the PTAB found that *Perlman* disclosed a limitation requiring “enabling selection, by the user, of the further one or more parts of item identifiers in order to add to the selected one or more parts to build a larger part or whole of a particular item identifier.” EX1013, 50-52. This limitation of claim 1 the '354 patent is of identical scope to limitation *li* in the '939 patent. EX1003, ¶96.

10. *lj: combine the selected one of the two parts of the item identifiers with the selected one of the two additional parts of the item identifiers to create a larger part of the item identifiers; and*

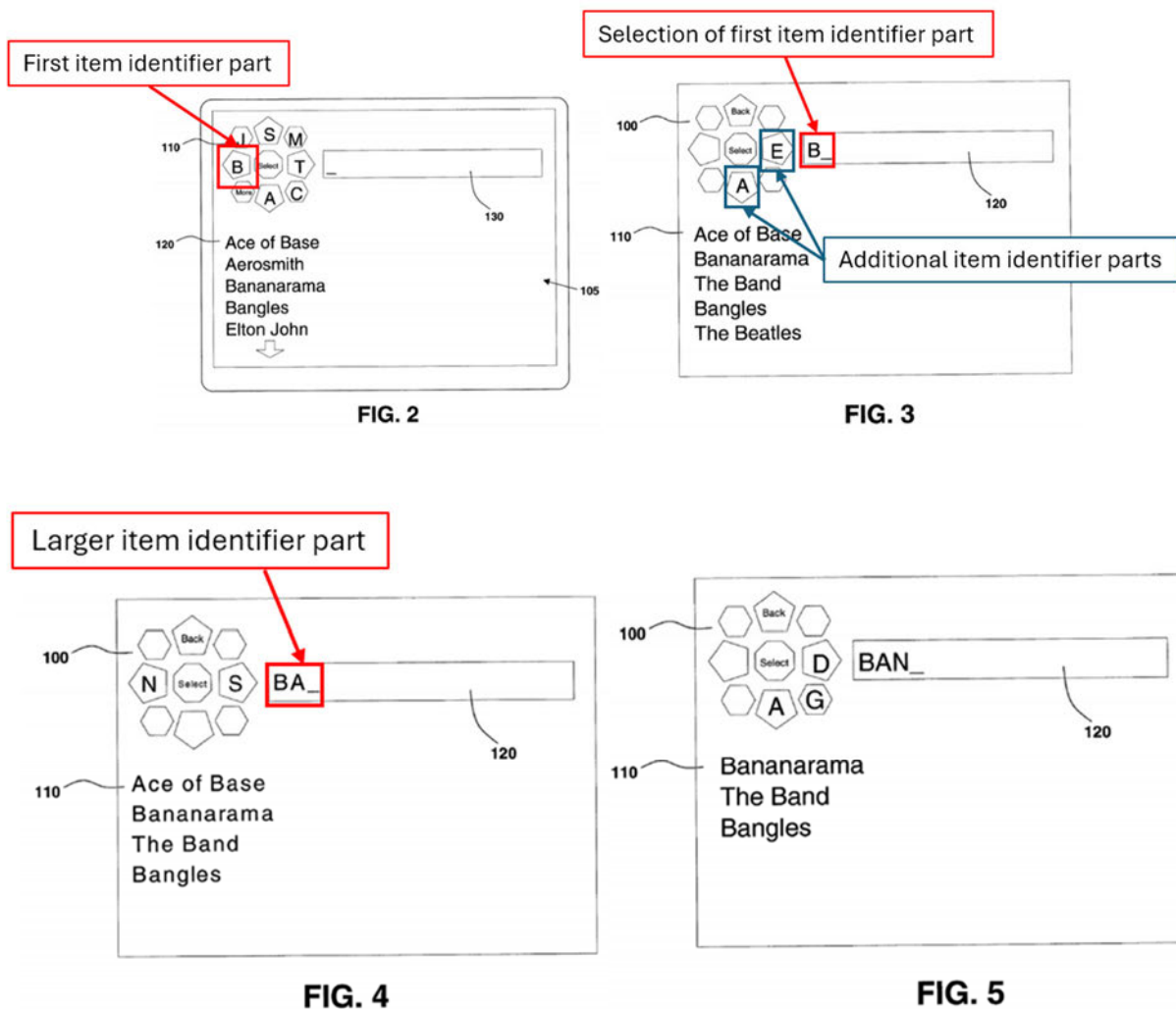
Perlman teaches that the *selected one of the two parts of the item identifiers* (e.g., choosing “B” from “B,” “J,” “S,” “M,” “T,” “A,” and “C”) is *combined with the selected one of the two additional parts of the item identifiers* (e.g., choosing “A” instead of “E” in Figure 3) *to create a larger part of the item identifiers*. EX1005, ¶¶[0017], [0025]-[0026]; Figs. 2-5; EX1003, ¶97.



In the '354 patent IPR FWD, the PTAB found that *Perlman* disclosed a limitation requiring “enabling selection, by the user, of the further one or more parts of item identifiers in order to add to the selected one or more parts to build a larger part or whole of a particular item identifier.” EX1013, 50-52. This limitation of claim 1 the '354 patent is of identical scope to limitation *1h* in the '252 patent. EX1003, ¶98.

11. *1k*: display the larger part of the item identifiers on the output display, wherein

Perlman teaches that the *larger part of the item identifiers is displayed*, as in text box 130 (Figure 2) where it displays the concatenated characters, which then form a larger part of the *item identifier* (e.g. “BA”). EX1005, ¶[0017], Figs. 2-5; EX1003, ¶99.

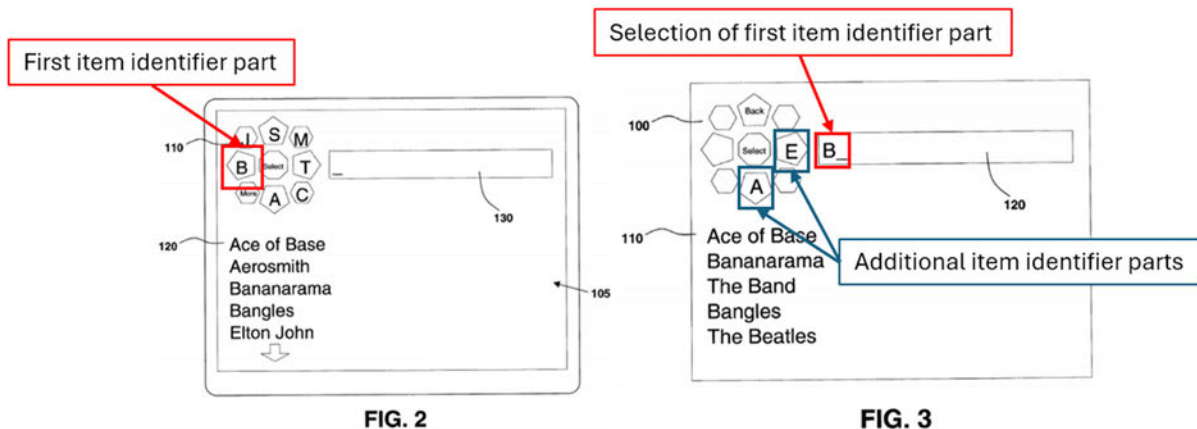


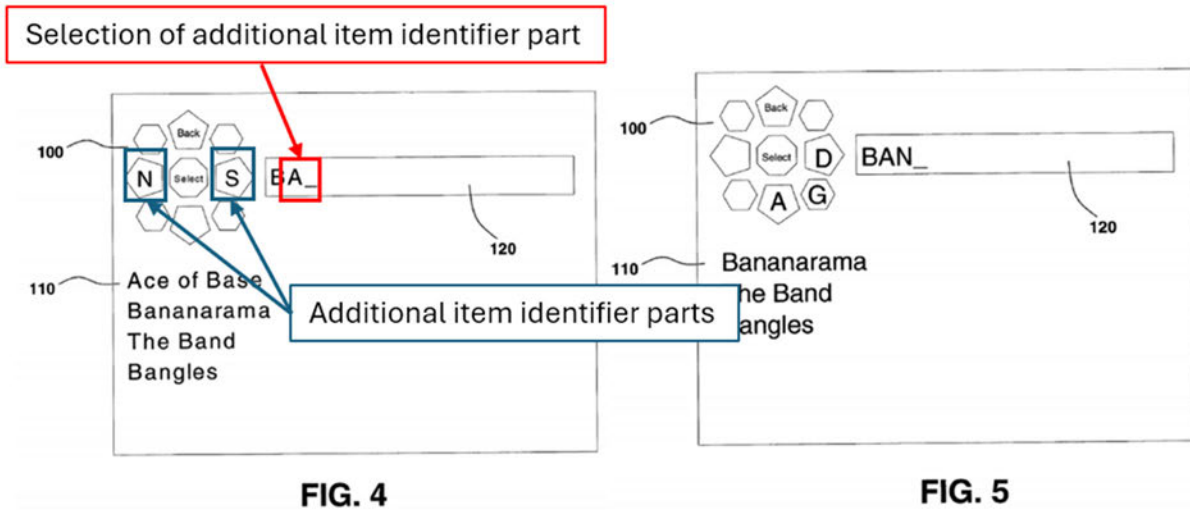
In the '354 patent IPR FWD, the PTAB found that *Perlman* disclosed a limitation requiring “enabling selection, by the user, of the further one or more parts

of item identifiers in order to add to the selected one or more parts to build a larger part or whole of a particular item identifier.” EX1013, 50-52. This limitation of claim 1 the ’354 patent is of identical scope to limitation *Ik* in the ’939 patent. EX1003, ¶100.

12. *1l: the additional parts of the item identifiers are shorter than a complete item identifier,*

As discussed above, *Perlman* teaches that the user’s selection of **additional parts of item identifiers** (“B” to “BA” to “BAN”) **are shorter than a complete item identifier** (“Bananarama” or “Beatles”), *i.e.* 1, 2, or 3 characters compared to 7 or 10 characters. EX1005, ¶¶[0004], [0017]; EX1003, ¶101. A built-in dictionary comprising English letters or characters may also be used. *Id.*, ¶¶[0035]-[0036].





In the '354 patent IPR FWD, the PTAB found that *Perlman* disclosed a limitation requiring “wherein the selected one or more parts of item identifiers and the further one or more parts of item identifiers are shorter than a complete word.” EX1013, 50-52. This limitation of claim 1 the '354 patent is of identical scope to limitation 11 in the '939 patent. EX1003, ¶102.

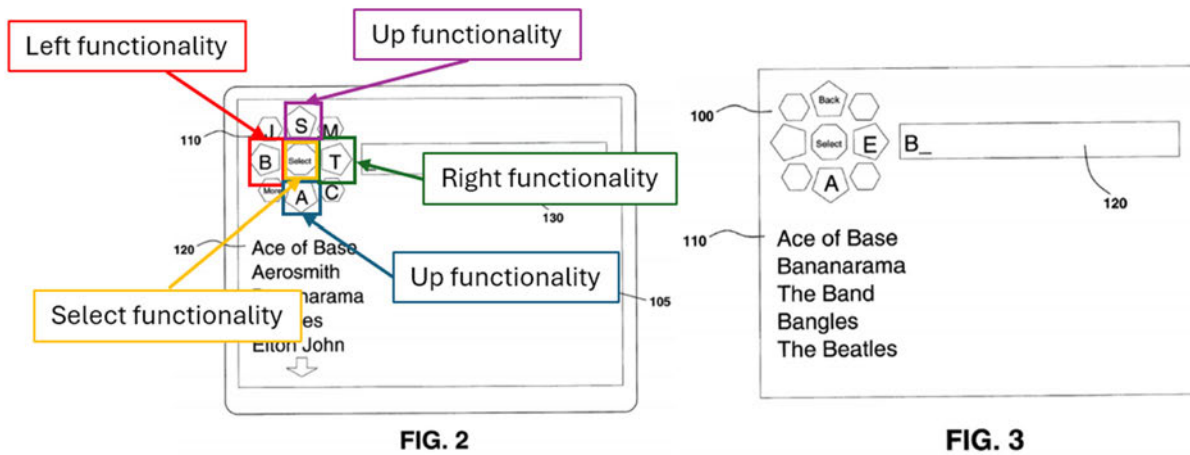
13. *1m: the first set of items and the second set of items are mutually exclusive of one another, and*

Perlman discloses that the user’s selection of *parts of item identifiers* (“B” to “BA” to “BAN”) involves user choices *between mutually exclusive sets of items* (the set starting with “B” versus that starting with “A”; the set starting with “BA” versus that starting with “BE”; the set starting with BAN versus those starting with “BAD” or “BAG”). EX1005, Figs. 2-5. EX1003, ¶103.

In addition, as discussed above for limitation *If*, *Perlman* discloses or renders obvious searching through different databases of different media types, which are also different and mutually exclusive sets of items. EX1003, ¶104.

14. ***In: the up, down, left, right, select functionality of the remote control keypad enables the selections of parts of item identifiers specifically positioned in a circular menu on the output display.***

“up, down, left, right, select functionality of the remote control keypad enables the selections of parts of item identifiers”: *Perlman* discloses the use of the ***up, down, left, right, select functionality of the remote control*** keypad, in Figure 1b, and the GUI reflects the selections the user makes and displays ***parts of item identifiers specifically positioned in a circular menu on the output display*** in Figure 2. EX1005, ¶[0014] (“directional and functional buttons”). As Dr. Madisetti explains, “the directional buttons of the remote device have directional functionality since they indicate the cardinal direction of the displayed star pattern for selection of characters.” EX1003, ¶106. For example, the “left” button on the remote has a “left” functionality because it will select the character in the “left” direction (“B” in Fig. 2) when pressed. *Id.*



To the extent PO argues that this limitation requires the use of buttons with directional functionality to select the individual characters, a POSITA would have found it obvious to combine *Perlman*'s disclosure of "directional ... buttons" with the selection of characters. EX1005, ¶[0014], EX1003, ¶107. Indeed, *Perlman* describes that the prior art allowed "scrolling through the alphabet (e.g., via scroll up/down buttons)" to select characters. EX1005, ¶[0004]. Although that description is described as prior art, a POSITA would have found it obvious that in some situations, it may be desirable to allow the selection of characters via directional buttons instead of direct input of characters, especially when combined with *Perlman*'s teachings of prioritizing letters "based on incidence within the database." EX1005, ¶[0020], EX1003, ¶107. For example, *Perlman* describes that the available characters for selection may outnumber the buttons on the remote device, thereby requiring a "more" button to "map[] a new set of characters to" the buttons in order to "locate a letter which is not currently displayed." EX1005, ¶[0014]. In such a

situation, a POSITA would have recognized that displaying all of the letters (including in a ring pattern) and allowing selection of letters using directional buttons would be more natural and efficient to the user compared to pressing the “more” button multiple times. A POSITA would have had a reasonable expectation of success since implementation of such functionality would simply involve displaying the available letters with a selection cursor and allowing the directional buttons to control the placement of the cursor, which would have been simple and well-within the skill of an ordinary artisan. EX1003, ¶108.

“*circular menu on the output display*”: *Perlman*’s “star pattern” is a *circular* menu. EX1003, ¶109.

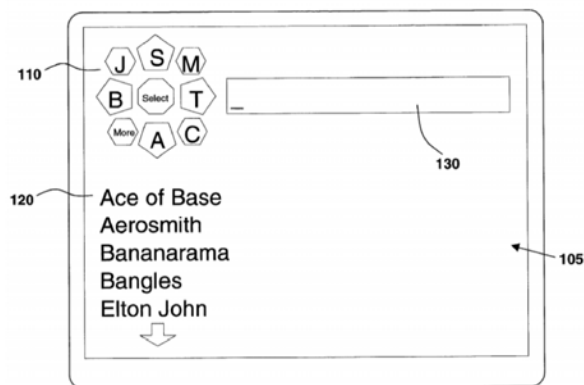


FIG. 2

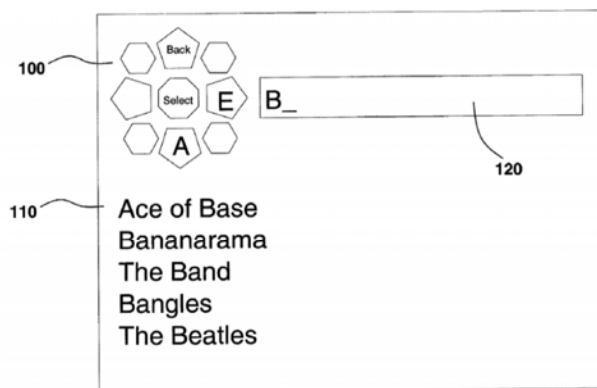


FIG. 3

EX1005, Figs. 2 & 3.

Indeed, the ’939 patent teaches that a circular menu is merely one that can be selected using the up, down, left, or right keypad buttons or joystick directions, not

PUBLIC VERSION

U.S. Patent No. 11,573,939
Petition for *Inter Partes* Review

requiring a true circle in the geometric sense. EX1003, ¶109. That is evident as the '939 patent refers to Figure 5 when describing a circular menu. EX1001, 4:56-64.

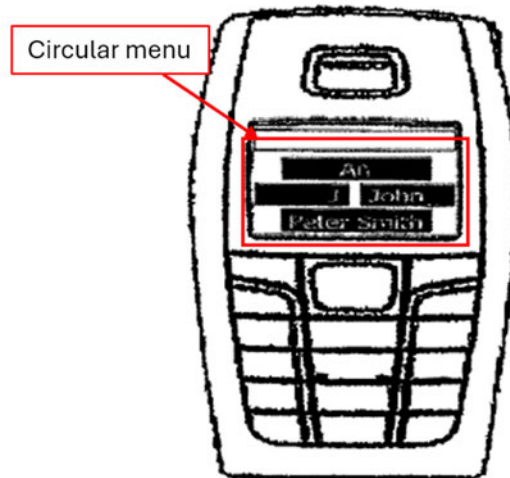


FIGURE 5

The '939 patent teaches: “the user is presented with 4 strings in a circular menu indicating the strings are selected by movements of the joystick in the directions left, right, up and down (FIG. 5)” EX1001, 4:56-64. Accordingly, the the “circular menu” need not be in the shape of a circle. EX1003, ¶110.

In the '354 patent IPR FWD, the PTAB found that *Perlman* disclosed a limitation requiring “the highest ranked of the further one or more parts of item identifiers” is “positioned in one of the up, down, left and right positions.” EX1013, 42-50. The PTAB also found that *Perlman* disclosed a limitation requiring “item identifiers being arranged on the display relative to one another and corresponding to at least an up, down, left or right position.” *Id.*, 39-42. These limitations of claim 1 the '354 patent, taken together, are substantially identical to claim 1 in the '939

patent and of identical scope, with the exception of the “circular menu” requirement.

EX1003, ¶111. As noted above, however, Perlman’s menu is clearly circular.

VII. GROUND 2: CLAIM 1 IS OBVIOUS IN LIGHT OF *PERLMAN* AND *DOSTIE*

A. *Dostie*

Dostie (EX1006) describes a personal computing device that supports the “rapid search for data, such as text” by having the user input one or more characters and then using the inputted character sequence to search a dictionary for a set of completion candidates that begin with the typed sequence. *Dostie*, Abstract; ¶73; EX1003 ¶¶112-14. *Dostie* discloses that full sequences of characters are presented based on the current location in the tree. *Id.*

Figure 14 returns candidates ordered based on their “preference values.” *Id.*, ¶¶85, 209-215.

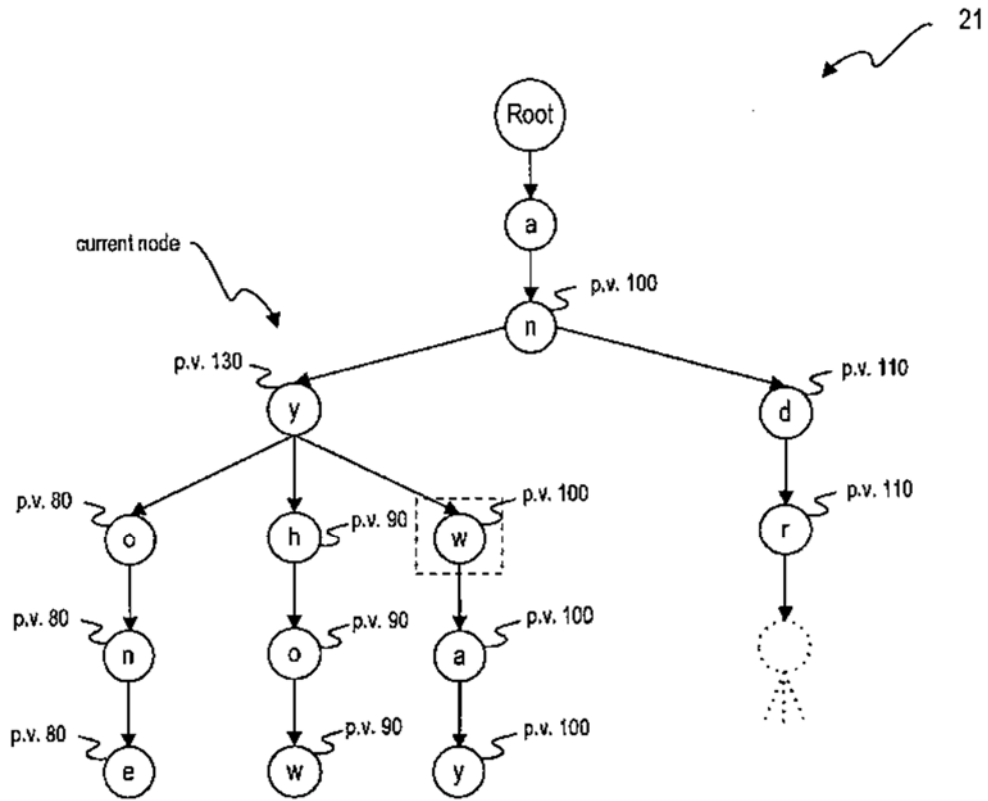


FIG. 14

Figure 3 from *Dostie* shows one method of presenting these completion candidates (either whole words or partial words).

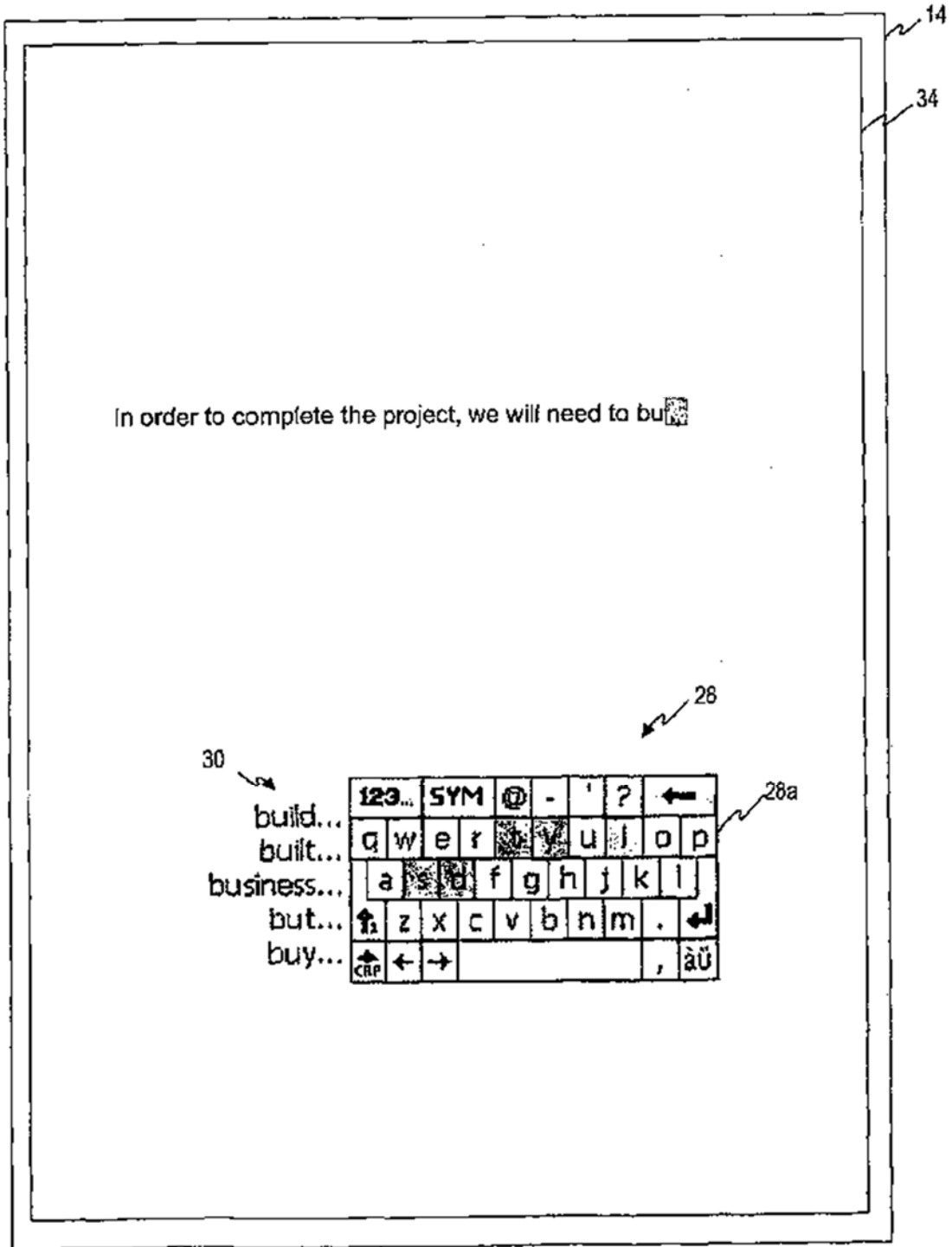


FIG. 3

Id.

B. Motivation to Combine *Perlman* and *Dostie*

It would have been obvious to incorporate *Dostie*'s dictionary trees and rankings based on tree hierarchy classifications into *Perlman* for a variety of reasons. First, it was well known at the time of *Perlman* to conduct database searches using hierarchical trees like the ones described in *Dostie*. EX1003, ¶115. *Dostie* also provides express motivation to incorporate its candidate trees to “rapidly predict potential completion candidates” and “provide[] a mechanism for supporting enhanced data entry techniques such as character prediction,” which describes *Perlman*'s systems. EX1005, ¶[0097]; EX1003, ¶115.

Indeed, as Dr. Madisetti explains, “hierarchical search trees are the most efficient way to identify matching prefixes because they promote efficient traversal forward and backward through a series of search candidates stored in nodes of the tree.” EX1003, ¶116. Thus, databases frequently used search trees and other hierarchical classifications to search, rank, and select entries. *Id.*

At the time of *Perlman*, database searching was routinely performed using a hierarchical search tree. *Id.* Due to these well-known benefits and a POSITA's knowledge of predictive keypad systems used to query databases, a POSITA would have had a reasonable expectation of success in achieving the desired result of efficiently calling up and displaying content of interest to a user. As such, the trees *Dostie* teaches would have been “a trivial and routine addition” to *Perlman* that

would have yielded the predictable results of permitting simple and efficient searching based on a known prefix of database entries. EX1003, ¶117. *Perlman* already discloses “forward and backward/reverse searching capabilities” (EX1006, ¶[0027]) which would include hierarchical search trees, which were the standard database searching technique at the time. EX1003, ¶117.

C. Claim 1

- 1. *Im: the first set of items and the second set of items are mutually exclusive of one another, and***

Dostie’s implementation organizes its database in a “tree structure” which can take the form of a binary tree or “B-tree.” EX1006, ¶[0088]. Because “[c]haracters making up a completion candidate are stored in separate nodes within the tree structure” and “each node pointing to a child node containing the next character in the completion candidate,” *Dostie*’s tree structure discloses that a ***first set of items*** and their ***item identifiers*** and a ***second set of items*** and its ***item identifiers***, wherein the ***two sets of items are mutually exclusive*** of one another and ***the third set of items*** and ***the fourth set of items*** are ***mutually exclusive subsets of the first set of items*** or ***the second set of items***. *Id.*, EX1003, ¶¶118-19.

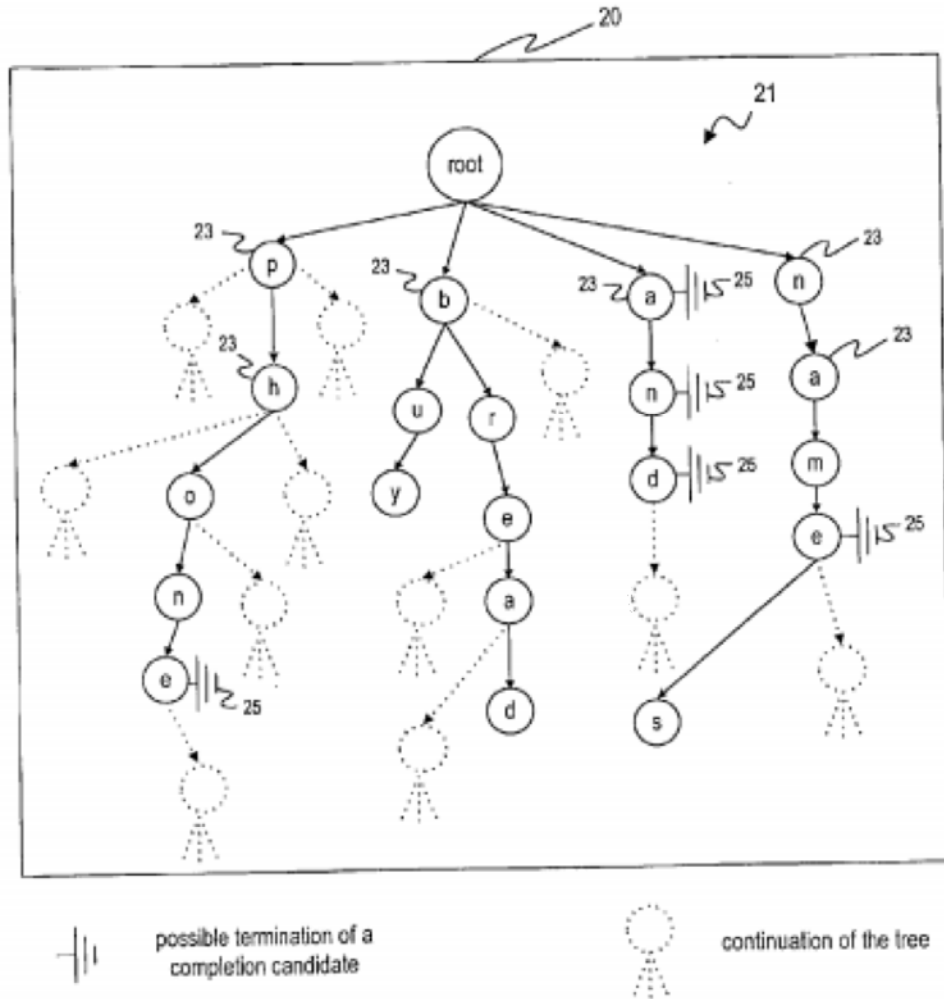


FIG. 4

Figure 4 shows *sets of item identifiers that are mutually exclusive of one another* and subsets of one another. For example, under candidate tree 21, different branches are mutually exclusive sets. EX1003, ¶120. And the items below a certain node in the same or different branch are the mutually exclusive subsets. *Id.* The “child list” or “child nodes pointer” for each node in the tree are also mutually

exclusive subsets, as they represent “a list of nodes which directly follow the current node, i.e. a list of nodes which are the immediate children of the current node.” *Id.*; EX1006, ¶¶[0090]-[0096]. As discussed above, a POSITA would have been motivated to incorporate *Dostie*’s tree structure into *Perlman*. EX1003, ¶120. The “enhanced data entry techniques” and “character prediction” are the same techniques described by *Perlman*, so a POSITA would have found it natural to incorporate *Dostie*’s candidate tree into the character selection system of *Perlman*. EX1003, ¶120.

In the ’354 patent IPR FWD, the PTAB found that *Dostie* disclosed a limitation requiring “the at least one predetermined criterion is a ranking of the one or more parts of item identifiers in relation to a tree hierarchy classification of the one or more parts of item identifiers.” EX1013, 64-68. The PTAB also found a POSITA would have combined *Perlman* and *Dostie*. *Id.*, 68-81.

VIII. GROUND 3: CLAIM 1 IS OBVIOUS IN LIGHT OF PERLMAN, DOSTIE, AND JOSENHANS

A. *Josenhans*

Josenhans (EX1008) discloses a method for searching at least two databases. Specifically, it relates to searching multiple, but independent databases that store different information such as an address book or appointment diary. The search terms a user enters are used to search all of the different databases, without a user’s

awareness. Therefore, a user can search universally without knowing he/she is searching multiple databases, eliminating the need to conduct multiple searches.

B. Motivation to Combine *Perlman*, *Dostie*, and *Josenhans*

To the extent Kannuu argues that the claims require that each set of item identifiers be stored in its own database, it would have been obvious to incorporate *Josenhans*' multiple databases and unified search into *Perlman* because, like *Perlman*, *Josenhans* deals with a method of searching for items stored in different data sets or databases. Specifically, one of ordinary skill in the art would look to references such as *Josenhans* to determine the best way to incorporate and setup the databases of *Perlman*. *Josenhans* provides express motivation to provide a unified search across multiple databases (like the ones described in *Perlman*) for simplicity (*Josenhans*, ¶10), for efficiency, convenience, and reduced memory requirements (*id.*, ¶11-13), and for speed and reduced data transfer requirements (*id.*, ¶12, 18.). A POSITA would have immediately recognized these well-known benefits and would have therefore had ample motivation to add a unified search across multiple databases to any search application involving multiple data sources, like *Perlman*'s various types of multimedia context and programming. EX1003, ¶124.

The combination of *Perlman* and *Josenhans* thus modifies *Perlman*'s system, which Petitioner submits above anticipates the Challenged Claims, and expressly adds multiple databases and a unified search capability. It would have been further

obvious to a POSITA to combine *Perlman*'s system with the hierarchical tree database structure and schema from *Dostie* to enhance and make more efficient the search capability of the combined system. A POSITA could predict with a high degree of certainty of success that these technologies could be used and, indeed, have been used, in combination to yield the same enhancements in efficiency and user functionality that the present combination affords. EX1003, ¶125.

C. Claim 1

1. *If: generate a first display on the output display, the first display comprises a part of an item identifier corresponding to a first set of items and a part of an item identifier corresponding to a second set of items in a database;*

If the Board were to construe this element to require that the *first and second sets of item identifiers* be in separate *databases*, with which Petitioner does not agree, nevertheless, *Josenhans* discloses two sets of identifiers in separate databases. Specifically, *Josenhans* discloses a search table “for *each* connected database,” all of which are searched simultaneously, which “allows the user to search in various databases just as simply as when searching in a single database.” EX1008, ¶10.

Accordingly, *Josenhans* discloses a system in which various search terms are stored in separate databases and further discloses that the system works so that a user can simply search all of the databases at once without knowing that he/she is actually using *item identifiers* from *separate databases*. EX1003, ¶¶129-130.

It would have been obvious to incorporate *Josenhans's* multiple database organizational structure into *Perlman* for the same reasons discussed above, and *Josenhans* itself deals the same type of text entry techniques and character prediction that as in *Perlman*. A POSITA would have recognized that the *Josenhans* system presents a way of organizing data into different databases without affecting the user interface for the user, and that *Dostie's* hierarchical tree database structure and schema would have been compatible with *Josenhans's* multiple databases. EX1003 ¶131.

In the '264 patent reexamination, the CRU found that *Josenhans* disclosed a limitation requiring “*Josenhans* discloses a system where various search terms are stored in separate databases, and further discloses that the system works so that a user can simply search all of the databases at once without knowing that they are actually using identifiers from separate databases.” EX1020, 12. The CRU also found it would have been obvious to combine *Josenhans* with *Perlman* and *Dostie*. *Id.*, 18-19.

IX. GROUND 4: CLAIM 1 IS ANTICIPATED OR RENDERED OBVIOUS BY BADARNEH

A. *Badarneh* (EX1003, ¶¶133-38)

Badarneh (EX1009) discloses a system for input of data elements (such as letters) in an electronic device, where entering characters suggests the next character or characters in a word. *Id.*, 1:9-11. The predictive functions are agnostic to the type

of interface or hardware device being used. *Id.*, 1:13-16. The important criterion is what the user sees in terms of inputs made and predictive outputs given in response. *Id.*, 1:27-30.

Badarneh discloses a “rotatable, multifunctional switch having five pressure points” as shown in Figure 5. *Id.*, 2:27-31.

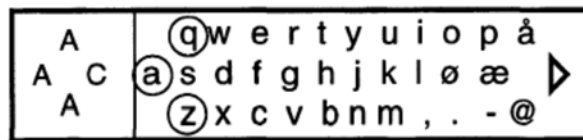


Fig. 5b

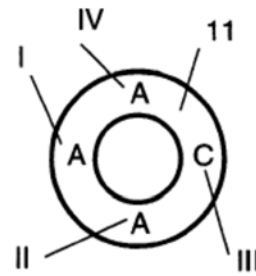


Fig. 5c

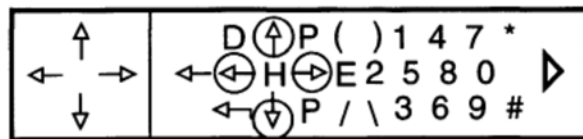


Fig. 5d

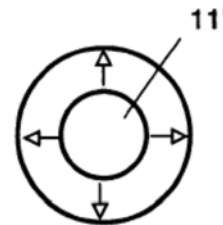


Fig. 5e

The rotatable switch is able to leverage the database of words and its ranking of such words based on the frequencies in which they have been used. *Id.*, 16:22-31.

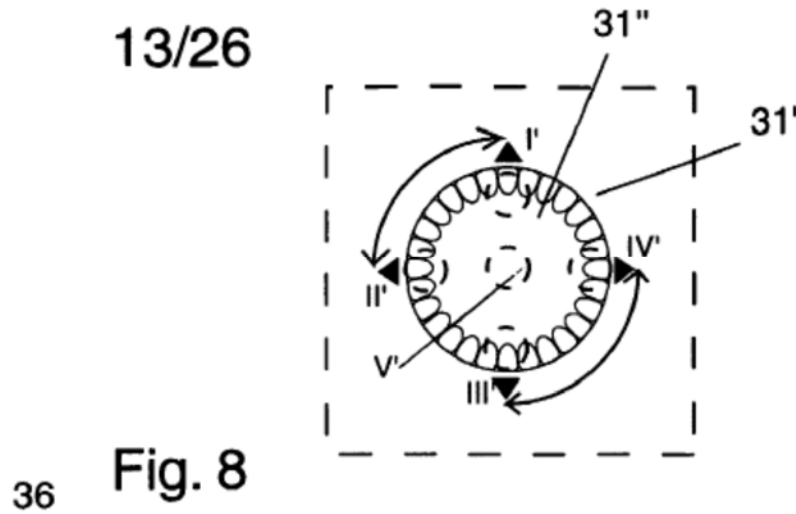


Fig. 8 shows an embodiment of a rotatable, multifunctional switch 31' which has five pressure points indicated by I', II', III', IV' and V'. These pressure points are explicitly in four directional positions (I'-IV'), plus a position V' in the center of the four-position switch.

In an illustrative example shown in Figure 9, the word “telephone” appears at the top of a list as the word most often appearing after “the te” is input (after ‘the te’ is input, the words that most often follow ‘te’ are displayed in the left rectangular section. Based on the frequency of words starting with “te”, the characters that can follow ‘te’ are shown in the circular icon section (‘l’, ‘c’, ‘m’ are displayed as the characters of the most frequently occurring words following ‘te’):

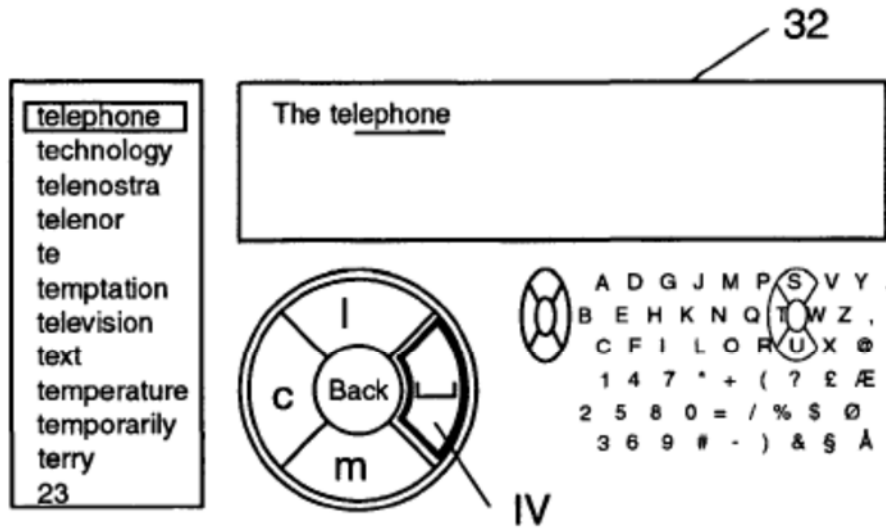


Fig. 9h

This GUI provides suggested inputs corresponding to “likely words and/or letters according to priority of use” (*id.*, 15:15-20), which corresponds to, for example, “a database which contains options and data that should be available” (*id.*, 24:15-19). It also provides further suggested inputs based on the user’s prior inputs. *Id.* Fig. 9d and 9e.

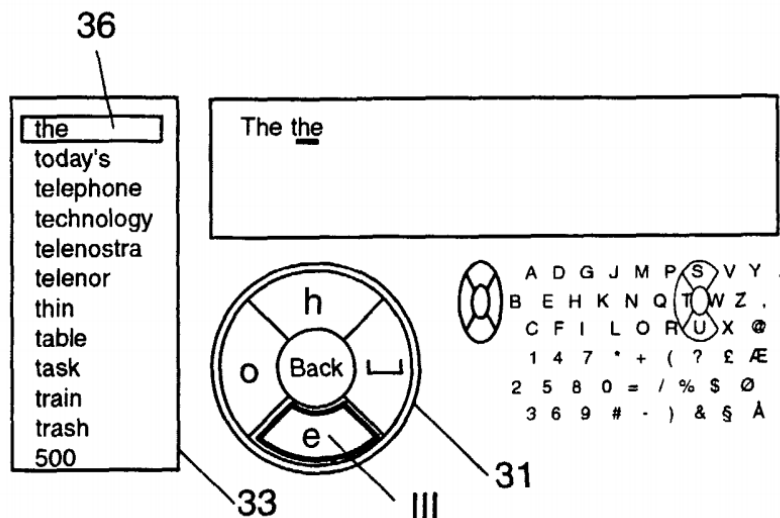
Badarneh also claims the prioritization of the data elements in its database according to predetermined criteria, including “a) the frequency of previous use of the phrases, or b) standard frequency of the occurrence of the phrases, or c) alphabetical order, or d) most probable phrases in conjunction with other used phrases, or e) style, terminology, dialect or language.” *Id.*, 26:33-27:2.

B. Claim 1

Badarneh anticipates and/or renders obvious the Challenged Claim. Should the Board construe element *If* to require separate databases, a POSITA would have looked to *Josenhans*, as explained in Ground 5. EX1003, ¶140.

1. 1a: A system for selecting items, the system comprising

Badarneh describes a system for selecting “letters, signs, numbers and/or symbols in connection with an electronic apparatus or device which has or is connected to a display, wherein the system is so configured that on input of at least one first data element in a data phrase it offers suggestions of the data phrase,” *i.e.* *items*. EX1009, [0002]. *Badarneh* depicts entering letters to select a word (36) (*item identifier* for an *item*) from the list (33) (*plurality of identifiers* for a *plurality of items*). EX1003, ¶141.



The circular menu 31 contains alphanumeric characters/symbols, which are *parts of item identifiers* corresponding to a *plurality of items*. EX1003, ¶141.

In the '579 patent reexamination, the CRU found that *Badarneh* disclosed a limitation requiring “computer-implemented method of selecting an item from a plurality of items, the method comprising: generating, by at least one computer processor, a first display.” EX1017, 3-4. This limitation of claim 1 the '579 patent is of identical scope to limitation *1a* in the '939 patent. EX1003, ¶142.

2. *1b: an output display of a television;*

Badarneh discloses *an output display of a television*, as the invention was “based on the *screen* showing or reflecting the possible functions of the switch and showing or giving feedback in response to the choices made and the functions operated.” EX1009, 1:27-30. *Badarneh* further discloses that “*all screen-assisted and screen-based devices* can be used according to the system described herein,” which would include a television with a remote control device. *Id.*; EX1003, ¶143. *Badarneh* also discloses that its system can be “adaptable to larger display screens ... used ... for other apparatus[es],” such as “remote control units,” which a POSITA would understand includes a television. EX1009, 4:6-11; EX1003, ¶143. *Badarneh* also discloses that its system can be “adaptable to larger display screens ... used ... for other apparatus[es],” such as “remote control units,” which a POSITA would understand includes a television. EX1009, 4:6-11.

PUBLIC VERSION

U.S. Patent No. 11,573,939
Petition for *Inter Partes* Review

A POSITA would also consider it obvious to apply *Badarneh's* system with a television, as televisions were well-known to be included in *Badarneh's* disclosure of screen-based system with remote control units. EX1005, ¶[0014]; EX1003, ¶144.

3. *1c: a remote control keypad with an up, down, left, right, select functionality; and*

Badarneh discloses a “a rotatable, multifunctional switch 31' which has five pressure points indicated by I, II, III, IV and V,” *i.e. remote control keypad with up, down, left, select functionality*. EX1009, 16:23-30; EX1003, ¶145. The keypad is depicted in the below figures:

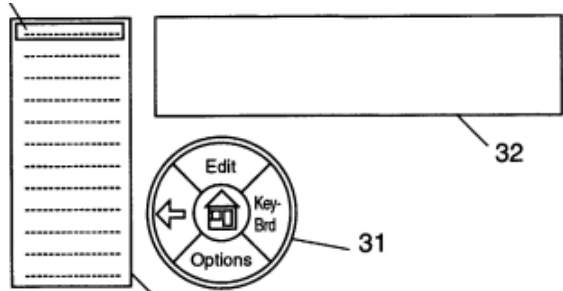


Fig. 9a

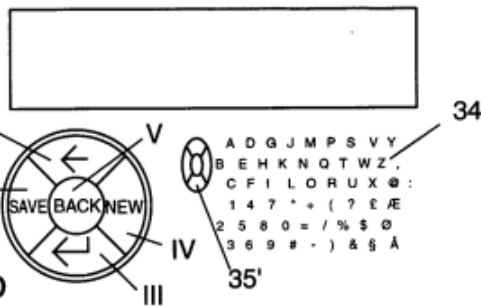


Fig. 9b

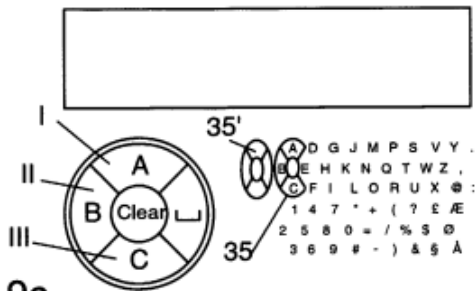


Fig. 9c

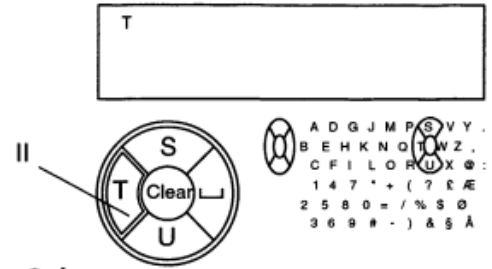


Fig. 9d

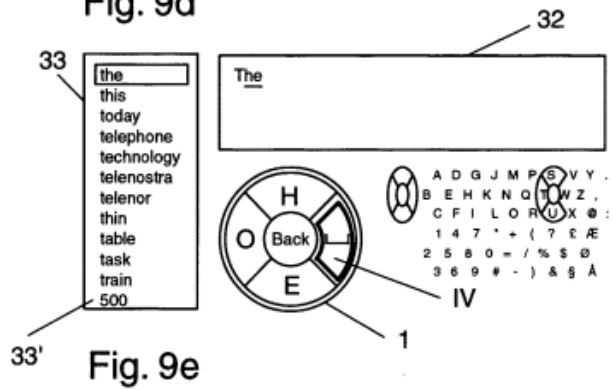


Fig. 9e

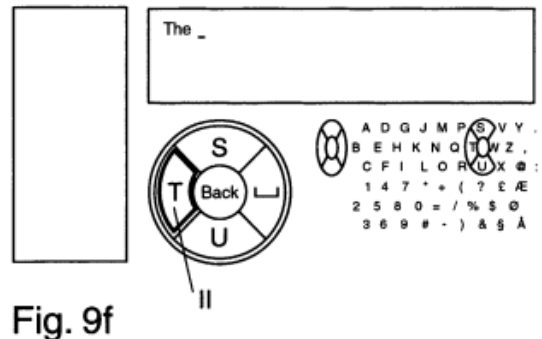


Fig. 9f

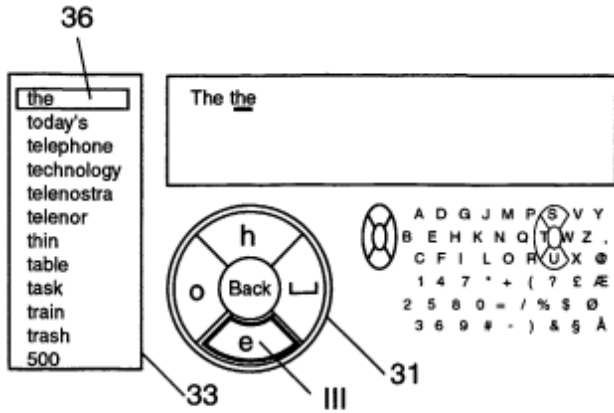


Fig. 9g

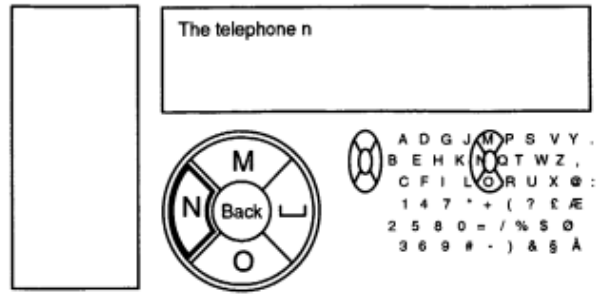


Fig. 9j

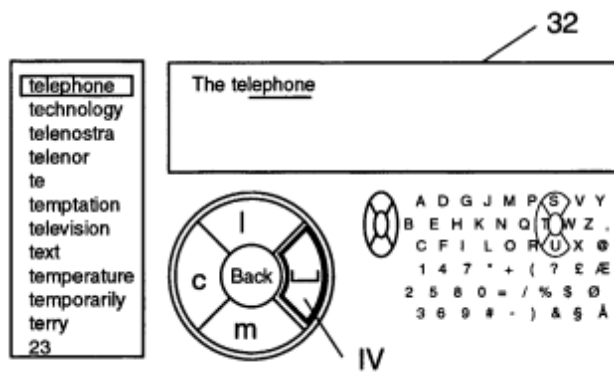


Fig. 9h

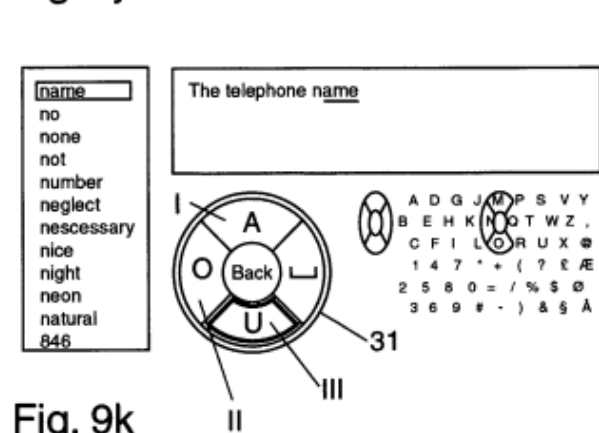


Fig. 9k

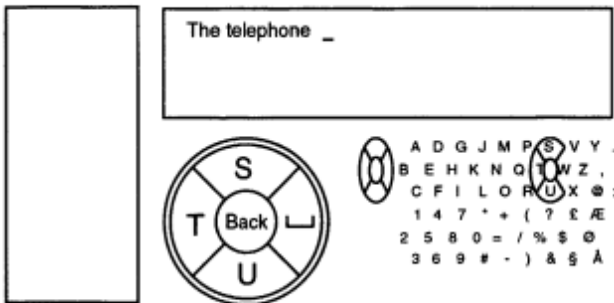


Fig. 9i

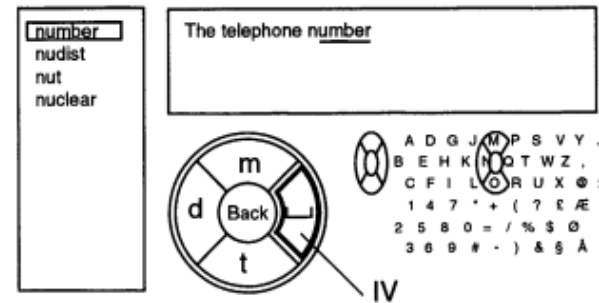


Fig. 9l

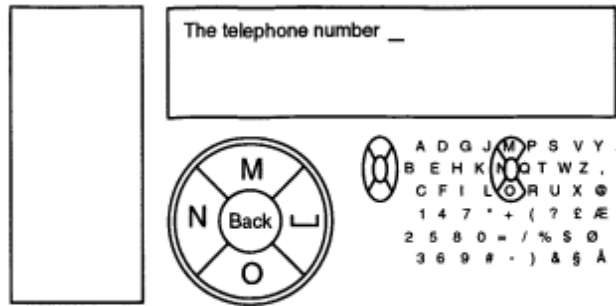
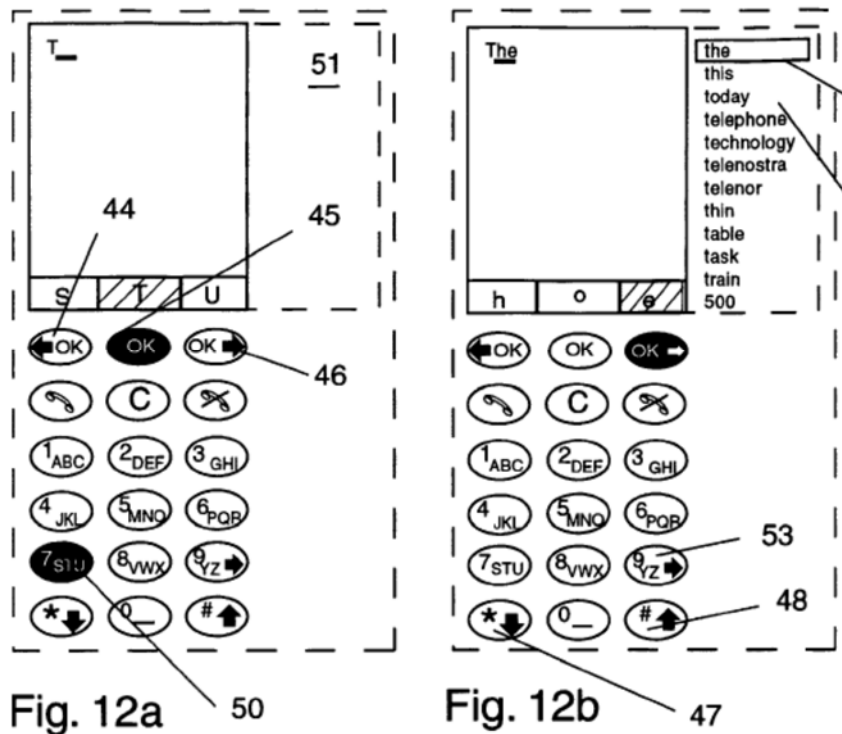


Fig. 9m

As shown these figures, *Badarneh's* positions I, II, III, and IV respectively correspond to up, left, down, and right functionality, as well as selection functionality, and position V corresponds to a selection functionality, since it can select various options like “home” and “back.” EX1009, Figs. 8, 9a-9m, 3:30-33, 16:23-18:36; EX1003, ¶146.

Badarneh also discloses “a traditional pushbutton keyboard in connection with the system shown in Figs. 9-11,” which is another claimed *keypad*. EX1009, 4:1-2. Figures 12a and 12b show the *keypad* with arrows on certain keys in *the up* (the “#” key), *down* (the “*” key), *left* (the top-left “OK” key), *and right* (the top-right “OK” key and the “9” key) *directions*, which are being used to select one or more parts of an item. EX1009, 22:15-23:6; EX1003, ¶147.

26/26



In the '579 patent reexamination, the CRU found that *Badarneh* disclosed a “GUI with character mapped buttons (I-IV) corresponding to up, down, left and right configuration can be controlled by a multifunction key.” EX1017, 4. This limitation is of similar scope. EX1003, ¶148.

4. *Id*: a computer processor contained within the television configured to:

Badarneh discloses that its system is an apparatus that “requires a memory and processing power,” and that the apparatus “has ... a display.” EX1009, 12:26-29, Abstract; *see also* 16:14-21 (“[T]he system can be construed with a microprocessor 14.”). This apparatus is separate from the remote control unit. *Id.*, 16:23-31. Thus, a POSITA would understand that in embodiments using a television

with a remote control device (e.g. a “remote control unit”), the processor would be within the television. EX1003, ¶149.

In the '579 patent reexamination, the CRU found that *Badarneh* disclosed a “computer processor.” EX1017, 5; EX1003, ¶150.

5. *1e: associate the items with corresponding item identifiers;*

Badarneh discloses a system that *associates items* (the item being searched) with *item identifiers* (the written descriptor) which are then displayed to the user. EX1007, 28:16-20 (“a correctly selected data phrase is selectively or automatically converted by the system to one or more *items* of displayable information which are directly related to the selected data phrase” (*item identifiers*)); EX1003, ¶151.

6. *1f: generate a first display on the output display, the first display comprises a part of an item identifier corresponding to a first set of items and a part of an item identifier corresponding to a second set of items in a database;*

Badarneh describes a GUI with character-mapped buttons (I, II, III, IV) corresponding to an up, down, left, and right configuration, which can be controlled by a multifunction key. EX1009, 14:30-15:2; EX1003, ¶152. This is shown in Figures 5b through 5e below:

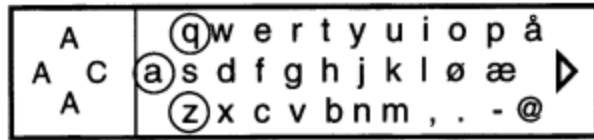


Fig. 5b

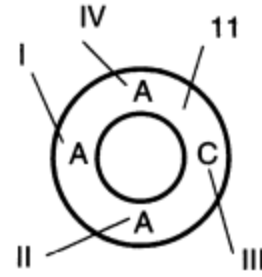


Fig. 5c



Fig. 5d

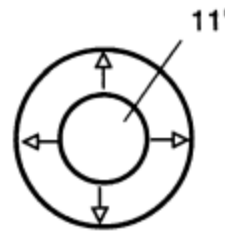


Fig. 5e

Figures 9 through 12 and corresponding description also disclose using the same multifunction. As discussed above, Figure 9 has buttons in an up, down, left, right configuration. EX1003, ¶153.

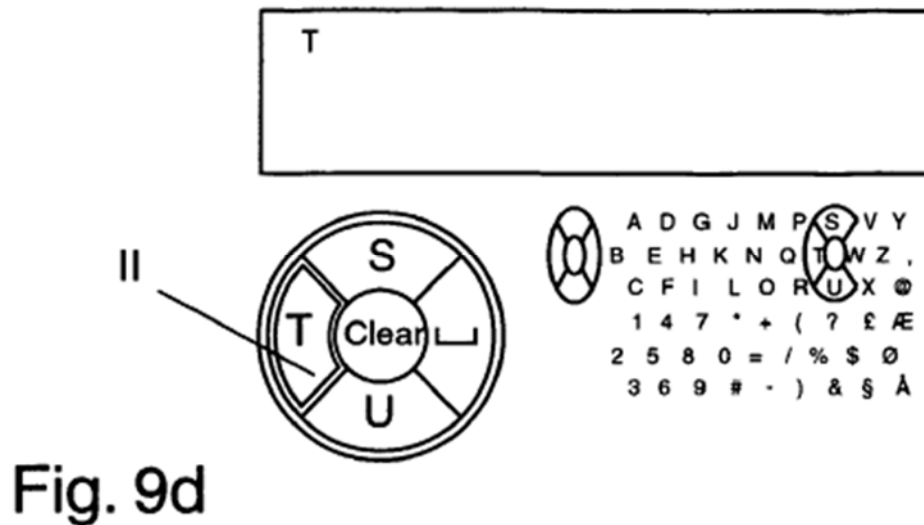
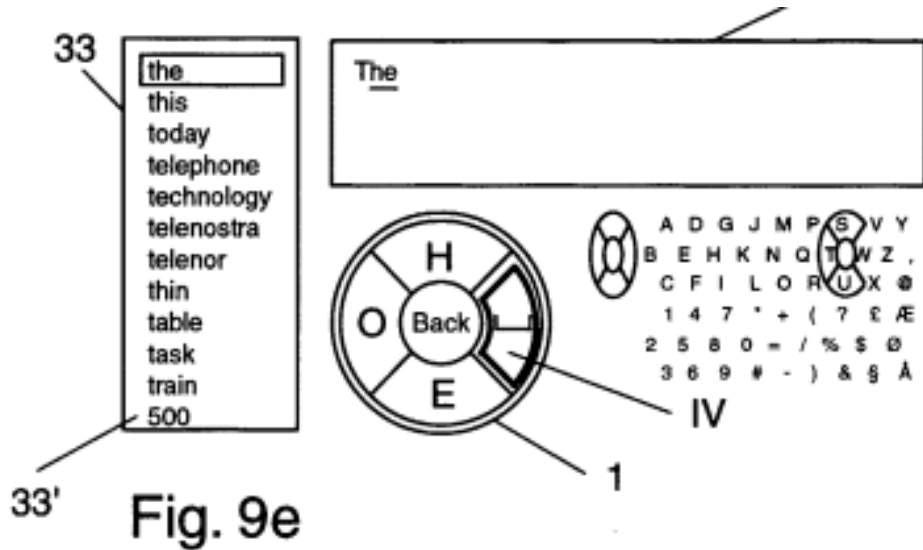


Fig. 9d

The up, down, left, right configuration includes within character-mapped buttons I, II, III, IV a *part of an item identifier* (e.g., “T,” “U,” “S”, and “space”) *for at least a first set of items* and a *part of an item identifier for at least a second set of items in a database*. And in each of *Badarneh’s* embodiments, “on the input of text, the user will have systems for guessing likely words and/or letters according to priority of use/probability calculus.” EX1009, 15:17-19. These words correspond to items within “a *database*.” *Id.*, 24:15-19; EX1003, ¶154.

Badarneh’s Figure 9d discloses generating a first display on the output display, the first display comprising a *part of an item identifier* (the letter “T”) corresponding to a first set of items (*items in the database starting with “T”*) and a *part of an item identifier (the letter “S”*) corresponding to a *second set of items (items in the database starting with “S”*) in a database. EX1003, ¶155.

Similarly, *Badarneh’s* Figure 9e discloses generating a first display on the output display, the first display comprising a *part of an item identifier* (the letter “E”) corresponding to a first set of items (*items in the database starting with “TE”*) and a *part of an item identifier (the letter “O”*) corresponding to a *second set of items (items in the database starting with “TO”*) in a database. EX1003, ¶156.



In the '579 patent reexamination, the CRU found that *Badarneh* disclosed a limitation requiring “the first display comprises: a part of an item identifier corresponding to a first set of items and a part of an item identifier corresponding to a second set of items.” EX1017, 4-5. This limitation of claim 1 the '579 patent is of identical scope to limitation *If* in the '939 patent. EX1003, ¶157.

7. *Ig: enable selection, by the remote control keypad, of one of the two parts of the item identifiers associated with a selected set of items;*

As discussed in the prior element, *Badarneh enables selection, by the remote control keypad, of one of two parts of the item identifiers*, specifically by allowing a user to select a letter from the GUI using the character mapped to the up, down, left, and right functions of the remote. EX1009, 16:23-31; EX1003, ¶158.

In the '579 patent reexamination, the CRU found that *Badarneh* disclosed a limitation requiring “enabling, by the at least one computer processor, selection of

PUBLIC VERSION

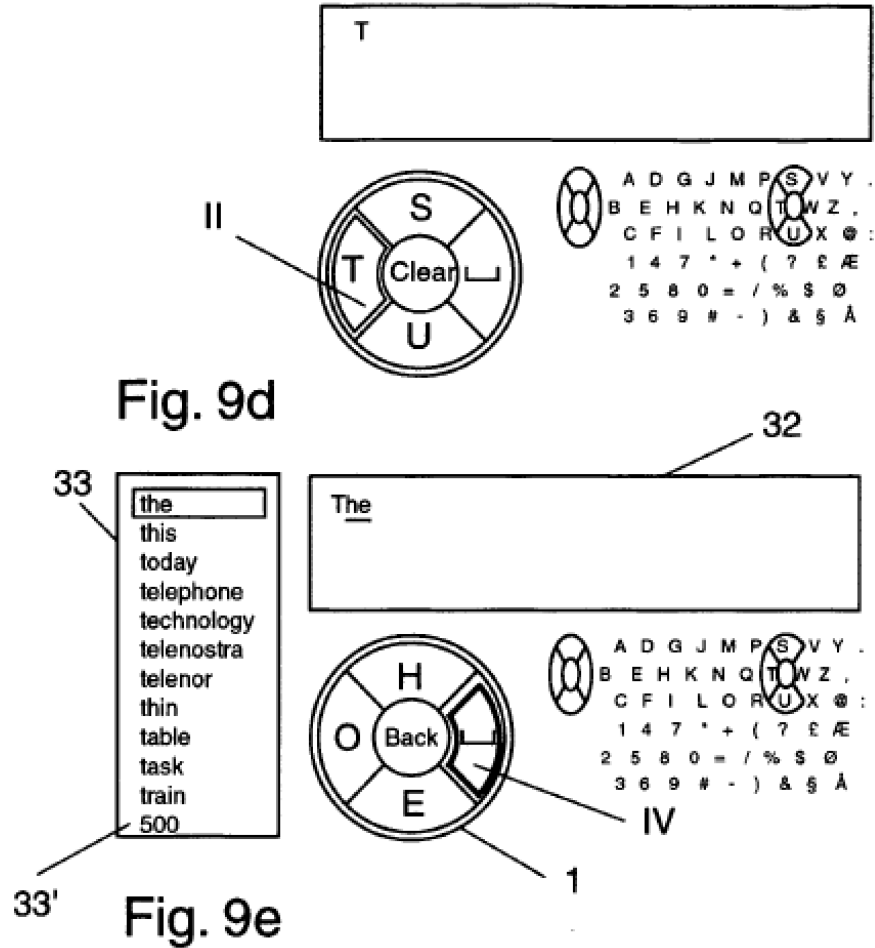
U.S. Patent No. 11,573,939
Petition for *Inter Partes* Review

one of the two parts of the item identifiers by a user using a user interface.” EX1017,

5. This limitation of claim 1 the '579 patent is of identical scope to limitation *Ig* in the '939 patent. EX1003, ¶159.

8. ***1h: generate, in response to the selection of the one of the two parts of item identifiers, a further display on the output display, the further display comprises an additional part of an item identifier corresponding to a subset of the selected set of items and another additional part of an item identifier corresponding to another subset of the selected set of items;***

Badarneh discloses that in response to a user selecting a letter (such as “T” in the below example), the system displays additional letters (“E,” “O” and H”) *i.e. further display comprising an additional part of an item identifier*. These additional letters correspond to the items beginning with the two letters (for example, items beginning with TE, TO, or TH), *i.e. a subset of the selected set of items*. EX1007, 17:28-31; EX1003, ¶¶160-61.



In the '579 patent reexamination, the CRU found that *Badarneh* disclosed a limitation requiring “generating, by the at least one computer processor, in response to the selection of the one of the two parts, a further display; wherein the further display comprises: an additional part of an item identifier corresponding to a subset of the selected set of items and another additional part of an item identifier corresponding to another subset of the selected items.” EX1017, 5-6. This limitation of claim 1 the '579 patent is of identical scope to limitation *1h* in the '939 patent. EX1003, ¶162.

9. *1i: enable selection, by the remote control keypad, of one of the two additional parts of the item identifiers;*

As discussed above, after a user *selects* a letter (*i.e.*, the letter T in Figure 9g or the letter “E” in Figure 9h), a new set of letters are displayed (*e.g.* the letters “E”, “O”, “H” in Figure 9g, or the letters “L”, “C”, “M” in Figure 9h), *i.e.* ***additional parts of the item identifiers***. These letters are automatically mapped to the up, down, left, right functionality of the remote control keypad, enabling the keypad to select the letters. EX1007, 17:29-34 (“Field 33 shows the candidate words which are picked from the available list of word in the order made according to how often these words have been used statistically. On the basis thereof, the system will choose letters which follow the previously entered letter. In this case, HOE are chosen as the letters which will provide letter number two in the first words that are chosen from the displayed list. These letters appear in the animation 31”); EX1003, ¶¶163-64.

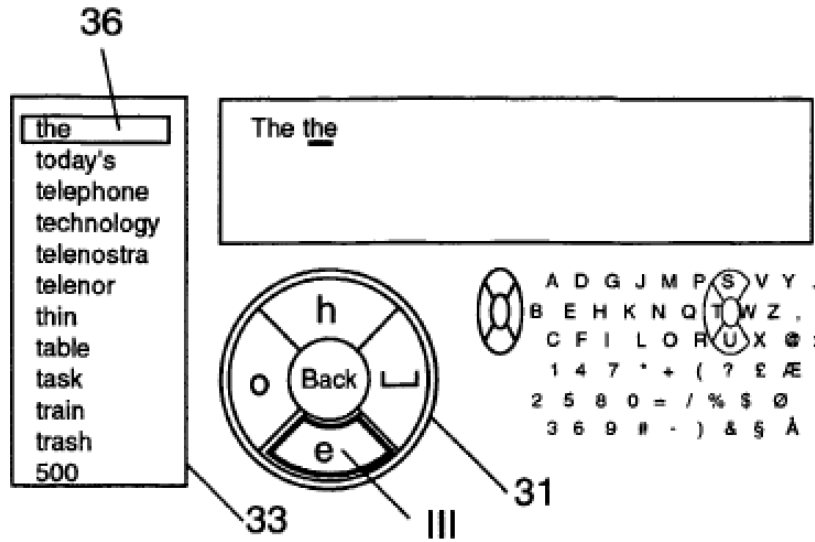


Fig. 9g

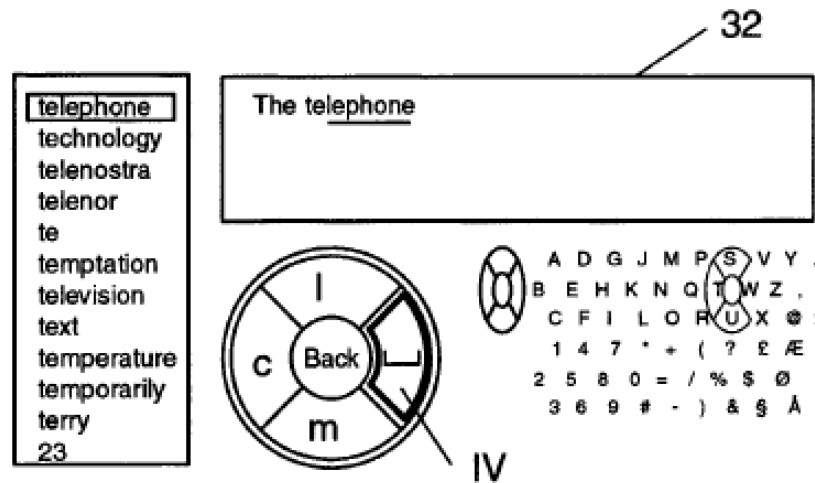


Fig. 9h

In the '579 patent reexamination, the CRU found that *Badarneh* disclosed a limitation requiring “enabling, by the at least one computer processor, selection of one of the two additional parts of the item identifiers by the user using the user interface.” EX1017, 6. This limitation of claim 1 the '579 patent is of identical scope to limitation *li* in the '939 patent. EX1003, ¶164.

10. *1j: combine the selected one of the two parts of the item identifiers with the selected one of the two additional parts of the item identifiers to create a larger part of the item identifiers; and*

Badarneh discloses that the selected letters (as shown in Figures 9a through 9m) (*i.e. parts of item identifiers*) are *combined* in the text box shown at the top of the figures to form a larger portion of the words (*i.e. item identifiers*) in the list 33'. See EX1009, 20-24; EX1003, ¶165.

In the '579 patent reexamination, the CRU found that *Badarneh* disclosed a limitation requiring “combining, by the at least one computer processor, the selected one of the two parts of the item identifiers with the selected one of the two additional parts of the item identifiers to create a larger part of the item identifiers.” EX1017, 6. This limitation of claim 1 the '579 patent is of identical scope to limitation *1j* in the '939 patent. EX1003, ¶166.

11. *1k: display the larger part of the item identifiers on the output display, wherein*

Badarneh discloses that the combined letters (*i.e. larger part of the item identifiers*) is *displayed* in the text box, as shown in Figures 9a through 9m. See EX1009, 20-24; EX1003, ¶167.

In the '579 patent reexamination, the CRU found that *Badarneh* disclosed a limitation requiring “displaying, by the at least one computer processor, the larger

part of the item identifiers.” EX1017, 6. This limitation of claim 1 the ’579 patent is of identical scope to limitation *Ik* in the ’939 patent. EX1003, ¶168.

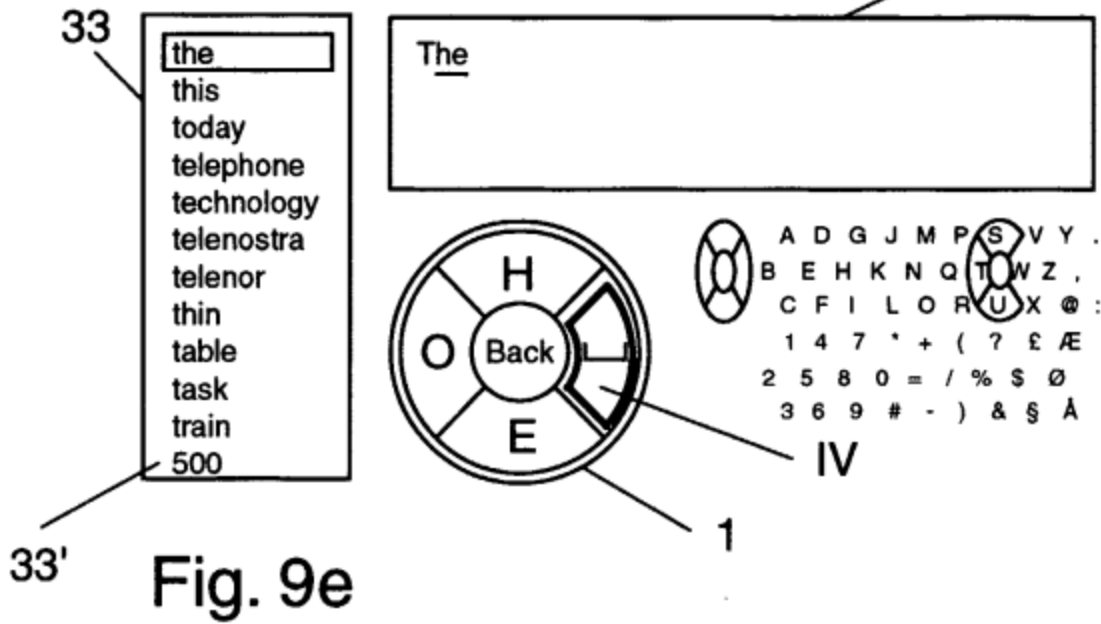
12. *Il: the additional parts of the item identifiers are shorter than a complete item identifier,*

Badarneh discloses that the additional letters (such as the second or third letters to be selected), *i.e. additional parts of item identifiers*, are *shorter* than complete item identifiers, as shown above in Figures 9a-m. EX1007, 9:20-24, 17:20-24. Specifically, a single letter is shorter than a single word. EX1003, ¶169.

In the ’579 patent reexamination, the CRU found that *Badarneh* disclosed a limitation requiring “wherein the additional parts of the item identifiers are shorter than complete item identifiers.” EX1017, 7. This limitation of claim 1 the ’579 patent is of identical scope to limitation *Il* in the ’939 patent. EX1003, ¶170.

13. *Im: the first set of items and the second set of items are mutually exclusive of one another, and*

As shown in Figure 9e, for example, the *items* that start with “TH” (*e.g.*, “the,” “this”) are mutually exclusive from the *items* that start with “TO” (*e.g.*, “today”) and the *items* that start with “TE” (*e.g.*, “telephone,” “technology,” “tlenostr,” “tlenor”). EX1007, 17:28-37; EX1003, ¶171.



As a user enters each additional letter, a different and new set of *items* can be chosen and displayed (*e.g.*, after entering “TE,” the *Badarneh* system now displays additional entries beginning with “TE,” including “temperature” and “temporarily”).

EX1007, 18:3-7, Fig. 9h; EX1003, ¶172.

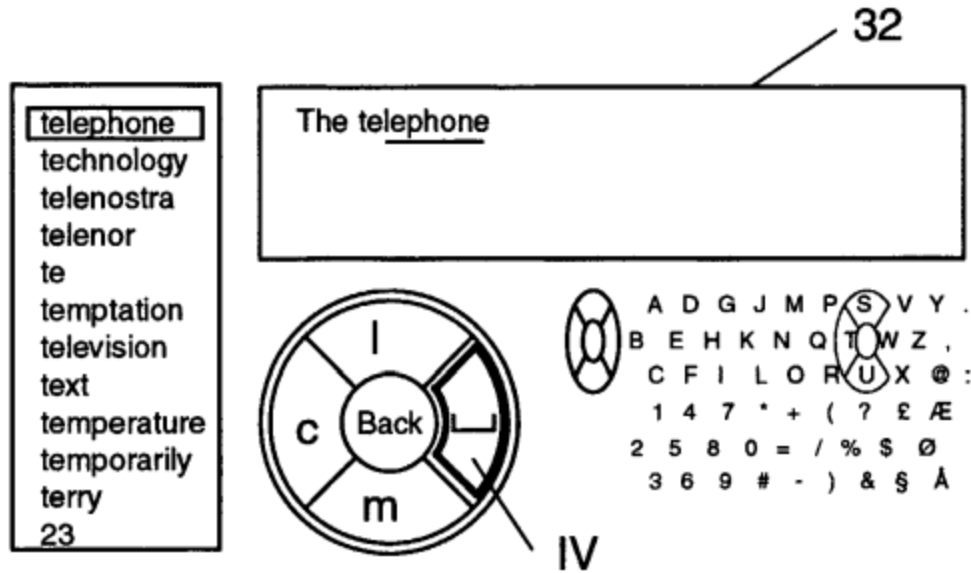


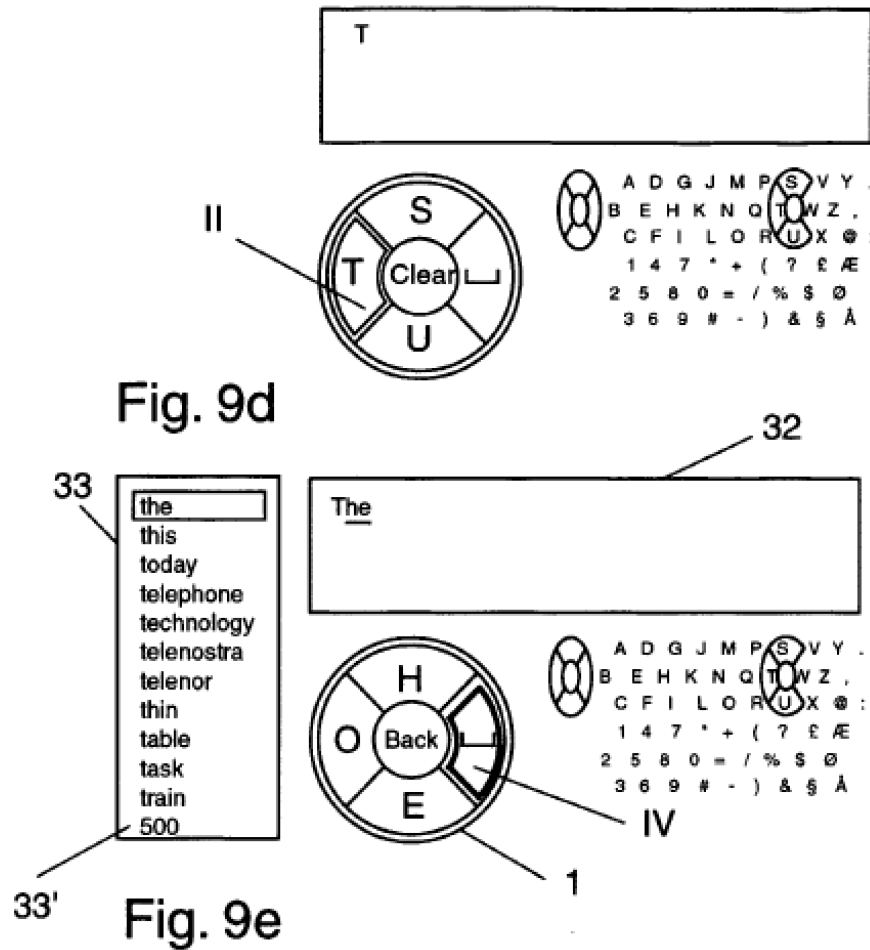
Fig. 9h

In the '579 patent reexamination, the CRU found that *Badarneh* disclosed a limitation requiring “the first set of items identifiers and the second set of item identifiers are mutually exclusive of one another.” EX1017, 7. This limitation of claim 1 the '579 patent is of identical scope to limitation *II* in the '939 patent. EX1003, ¶173.

14. *In: the up, down, left, right, select functionality of the remote control keypad enables the selections of parts of item identifiers specifically positioned in a circular menu on the output display.*

“up, down, left, right, select functionality of the remote control keypad enables the selections of parts of item identifiers”: In *Badarneh*, the directional buttons of the remote device have directional and select functionality since they indicate the cardinal direction of the displayed circular pattern for selection of

characters, such as shown in Figures 8 through 9m. EX1003, ¶175. For example, the “left” button on the remote has a “left” functionality because it will select the character in the “left” direction (“T” in Fig. 9d and “O” in Fig. 9e) when actuated.



To the extent Kannuu argues that the up/down/left/right functionality must move a cursor to select individual characters, a POSITA would have found it obvious to allow the use of the directional buttons on the remote to select the characters. *Badarneh* already discloses that the circular menu in Figure 9 can be moved by using the radial switch. A POSITA would have found it obvious to allow the selection of

letters using the directional buttons instead, as that may provide an alternative method of input that some users may find more intuitive and easier to use. EX1003, ¶176. A POSITA would have had a reasonable expectation of success since implementation of such functionality would simply involve displaying a selection cursor and allowing the directional buttons to control the placement of the cursor, which would have been simple and well-within the skill of an ordinary artisan. *Id.*

“circular menu on the output display”: *Badarneh* discloses this limitation as understood in view of the '939 patent. EX1003, ¶177. The '939 patent describes that the below figure's display has a “circular menu.” EX1001, 4:56-64.

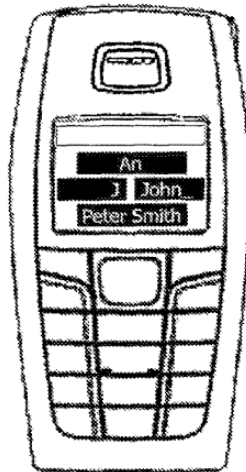


FIGURE 5

Thus, in the '939 patent, a “circular menu on the output display” is a display that can be selected using the up, down, left, or right keypad buttons or joystick directions, but does not require a geometric circle. EX1003, ¶178. This could be

understood as buttons arranged in a circle. *Id. Badarneh* discloses the same circular menu as in Figure 5 of the '939 patent:

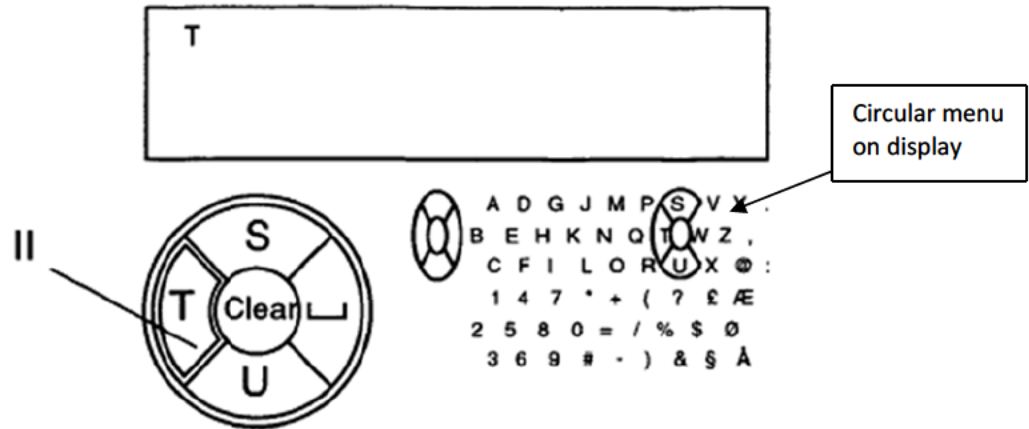


Fig. 9d

Indeed, *Badarneh*'s menu has a more circular shape than the one depicted in the '939 patent. EX1003, ¶179.

In the '579 patent reexamination, the CRU found that *Badarneh* disclosed “a GUI with character mapped buttons (I-IV) corresponding to up, down, left and right configuration can be controlled by a multifunction key.” EX1017, 4; EX1003, ¶180.

X. GROUND 5: CLAIM 1 IS OBVIOUS IN LIGHT OF *BADARNEH* AND *JOSENHANS*

A POSITA would have considered it obvious to combine the disclosures in *Badarneh* and *Josenhans*. EX1003, ¶¶181-84.

A. Motivation to Combine *Badarneh* and *Josenhans*

A POSITA would like to a reference like *Josenhans* because, like *Badarneh*, *Josenhans* deals with “a method of searching for data in at least two databases.” EX1003, ¶186. Specifically, *Josenhans* provides an efficacious way to incorporate and setup the databases of *Badarneh* without negatively affecting the user interface. *Id.* A POSITA designing a system that performs searches on mobile devices such as PDAs and cell phones would have been forced into considering the use of multiple databases, as such devices store data of various types and frequently store data of the same type in multiple databases (*e.g.*, a custom language dictionary that complements a dictionary of the English language). The combined system informed by *Badarneh* and *Josenhans* would permit a more efficient and user-friendly interface that permits searching for items across multiple data sources or databases. *Id.* A POSITA reading *Badarneh* would have looked to references like *Josenhans* to further “simplify...[the] input of data elements” and speed up text entry of items stored in different databases, as described in *Badarneh*. EX1006, 3:1-4. EX1003, ¶186.

B. Claim 1

- 1. *If: generate a first display on the output display, the first display comprises a part of an item identifier corresponding to a first set of items and a part of an item identifier corresponding to a second set of items in a database;***

If the Board were to construe this element to require that the *first and second sets of item identifiers* be in separate *databases*, with which Petitioner does not agree, nevertheless, *Josenhans* discloses two sets of identifiers in separate databases. EX1003, ¶190. Specifically, *Josenhans* discloses a search table “for *each* connected database,” all of which are searched simultaneously, which “allows the user to search in various databases just as simply as when searching in a single database.” EX1008 at ¶10.

Accordingly, *Josenhans* discloses a system in which various search terms are stored in separate databases, and further discloses that the system works so that a user can simply search all of the databases at once without knowing that they are actually using identifiers from separate databases. EX1003, ¶191.

It would have been obvious to incorporate *Josenhans’s* database organizational structure into *Badarneh* for the same reasons because *Josenhans* itself deals the same type of text entry techniques and character prediction that as in *Badarneh*. A POSITA would have recognized that the *Josenhans* system presents a way of organizing data into different databases without affecting the user interface for the user. EX1003 ¶192.

In the ’579 patent reexamination, the CRU found that *Josenhans* “discloses simultaneous access to two or more databases in order to perform a search” and “discloses that two sets of identifiers may exist in separate databases.” EX1017, 4.

The CRU also found “[i]t would have been obvious to a skilled artisan at the time of the invention to have incorporated Josenhans’ database structure into Badarneh because there is an advantage to searching multiple databases as simply as searching one database in that it is more efficient, faster, convenient, and utilizes low memory capacity and low transfer rates.” *Id.*, 5; EX1003, ¶179.

XI. SECONDARY CONSIDERATIONS

In IPR2020-00737 and IPR2020-00738, Kannuu requested, and Samsung produced,² documents that, according to Kannuu, are relevant to secondary indicia. Kannuu attached Samsung’s document production as EX2053 through EX2055 in those proceedings and those same documents are attached here as EX1023 and EX1025. Kannuu had those documents translated and relied on them throughout their briefing in those IPRs, arguing that they supported secondary indicia of industry praise (IPR2020-00737, Paper 36, § II.B), industry recognition (*id.*, § II.C), copying (*id.*, § II.D), unexpected results (*id.*, § II.E), and failure of others (*id.*, § II.F). EX1013, 87.

Before reaching a decision in those cases, the Board ordered, and Samsung provided, extensive discovery into alleged secondary considerations. [REDACTED]

[REDACTED]

[REDACTED]

² Samsung produced this initial round of discovery materials voluntarily.

[REDACTED]

[REDACTED] Kannuu also alleged that there was industry praise of Kannuu’s inventions, and that the commercial success of Samsung’s allegedly infringing televisions was evidence of commercial success. In connection with these requests, early in the proceedings after institution, Samsung voluntarily made a production of documents relating to Kannuu’s allegations. Kannuu, indeed, cited these documents throughout its PORs in those cases. *See, e.g.*, IPR2020-00737, Paper 36 at 18-20 fns. 26-40.

Kannuu continued demanding discovery. And on March 29, 2021, the Board granted Kannuu’s request for an interrogatory response and a 30(b)(6) corporate deposition of Samsung. IPR2020-00737, Paper 70. Samsung provided that discovery response and then supplemented it on May 3, 2021 (EX1027) and its corporate designee, Sangyoon Kim, who verified the interrogatory response, was deposed on May 4, 2021 (EX1026). [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Before this interrogatory response and deposition, but after Samsung had submitted its reply, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

EX1059; EX1058. Kannuu, however, moved to strike this document because it was initially produced untranslated. The Board granted this motion as part of its FWD

(EX1013, 16) and, therefore, did not consider this important evidence. The Board did not strike this document for any other reason other than when it was produced.

At the same time, Kannuu had produced no documents of its own relevant to any secondary considerations, and Samsung therefore sought discovery into licensing and other relevant secondary indicia of obviousness. The Board granted that discovery on April 16, 2021. IPR2020-00737, Paper 73. Kannuu thereafter produced documents, attached here as EX1033 through EX1056. [REDACTED]

[REDACTED]

In the FWD, [REDACTED]

[REDACTED] The Board also rejected Kannuu’s argument that there is a presumption of nexus as to Samsung’s accused TVs. *Id.*, 91.

For actual nexus, the Board addressed each alleged secondary indicia separately. For industry praise and recognition, the Board found that Kannuu “fail[ed] to sufficiently link the praise and industry recognition to any unique characteristics of the invention” of the claims. *Id.*, 92. For copying, the Board found

PUBLIC VERSION

U.S. Patent No. 11,573,939
Petition for *Inter Partes* Review

that Kannuu “has not shown that Petitioner’s product, the Samsung Smart TV, embodies, or is similar to, the product” of the claims. *Id.*, 93. For commercial success, the Board found that Kannuu had “not shown that the commercial success of Petitioner’s products was the result of the unique characteristics of those claims rather than due to other considerations (for example, other technological features included in the Samsung Smart TV product, Petitioner’s marketing of that product, or simply by virtue of Petitioner’s brand name recognition).” *Id.*, 94. For unexpected results, the Board found that Kannuu had failed to tie its arguments “to the specific features of the claims at issue.” *Id.*

In sum, the Board found no nexus, presumed or actual, for any secondary indicia of non-obviousness. *Id.*, 95. On that basis, the Board gave secondary indicia “little weight.” *Id.*

Thus, as the Board correctly found, there are no secondary considerations of non-obviousness, and the same holding should apply here. EX1003, ¶¶194-97. However, out of an abundance of caution, Samsung reproduces here all alleged evidence supporting secondary indicia produced in connection with IPR2020-00737 and IPR2020-00738.

XII. MANDATORY NOTICES

A. Grounds for Standing (37 C.F.R. § 42.104(a))

Petitioner certifies that the '939 patent is available for *inter partes* review and Petitioner is not barred or estopped from requesting review of the Challenged Claim on the grounds identified in this Petition.

B. Real Party-in-Interest (37 C.F.R. § 42.8(b)(1))

The real parties-in-interest for Petitioner are Samsung Electronics America, Inc. and Samsung Electronics Co., Ltd.

C. Related Matters (37 C.F.R. § 42.8(b)(2))

The following judicial or administrative matters may affect or be affected by a decision in this proceeding: *Kannuu Pty Ltd. v. Samsung Electronics Co., Ltd. et al.*, 1:19-cv-04297-ER (S.D.N.Y.). In that action, Patent Owner has asserted the '939 patent (EX1001) and the '252 Patent (EX1022).

IPR2020-00737, IPR2020-00738, and Reexamination Nos. 90/014,759, 90/014,760, and 90/014,761 involved family members of the '939 and '252 patents, previously asserted against Samsung in the above-referenced district court litigation.

PUBLIC VERSION

U.S. Patent No. 11,573,939
Petition for *Inter Partes* Review

D. Lead and Backup Counsel and Service Information (37 C.F.R. § 42.8(b)(3)-(4))

The designations of counsel and address for service³ are:

LEAD COUNSEL	BACKUP COUNSEL
James M. Glass (Reg. No. 46,729) jimglass@quinnemanuel.com QUINN EMANUEL URQUHART & SULLIVAN, LLP 295 Fifth Avenue, 9th Floor New York, NY 10016 Tel: (212) 849-7000 Fax: (212) 849-7100	John T. McKee (Reg. No. 65,926) johnmckee@quinnemanuel.com QUINN EMANUEL URQUHART & SULLIVAN, LLP 295 5th Avenue, 9th Floor New York, New York 10016 Tel: (212) 849-7000 Fax: (212) 849-7100 Nagendra Setty (Reg. No. 38,300) nicksetty@quinnemanuel.com QUINN EMANUEL URQUHART & SULLIVAN, LLP 1109 First Avenue, Suite 210 Seattle, WA 98101 Tel: (206) 905-7000 Quincy Lu (Reg. No. 76,954) quincylu@quinnemanuel.com QUINN EMANUEL URQUHART & SULLIVAN, LLP 1109 First Avenue, Suite 210 Seattle, WA 98101 Tel: (206) 905-7000

³ Petitioner consents to electronic service to QE-Samsung-Kannuu-IPRs@quinnemanuel.com and the email addresses listed in the table below.

E. Fee for *Inter Partes* Review

The required fees are submitted herewith. Petitioner authorizes the Patent Office to charge Deposit Account No. 50-5708 for any additional fees required for this filing.

XIII. CONCLUSION

Petitioner has established a reasonable likelihood that the Challenged Claim is unpatentable. Petitioner therefore respectfully requests that *inter partes* review of the '939 patent be granted.

Respectfully submitted,

Date: October 20, 2025

/s/ John T. McKee

John T. McKee (Reg. No. 65,926)

PUBLIC VERSION

U.S. Patent No. 11,573,939
Petition for *Inter Partes* Review

CERTIFICATION UNDER 37 C.F.R. § 42.24

Under the provisions of 37 C.F.R. § 42.24, the undersigned hereby certifies that the word count for the foregoing Petition for *inter partes* review (excluding the table of contents, table of authorities, mandatory notices, certificate of service or word count, and appendix of exhibits or claim listing) totals 12,854 words, which is less than the 14,000 words allowed under 37 C.F.R. § 42.24(a)(i).

Date: October 20, 2025

/s/ John T. McKee

John T. McKee (Reg. No. 65,926)

PUBLIC VERSION

U.S. Patent No. 11,573,939
Petition for *Inter Partes* Review

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §§ 42.6(e), 42.105(a), the undersigned hereby certifies service on the Patent Owner of a copy of this Petition and its respective exhibits at the official correspondence address for the attorney of record for the '939 patent as shown in USPTO Patent Center via EXPRESS MAIL:

Jones Day
250 Vesey Street
New York NY 10281-1047

The undersigned hereby certifies service of courtesy copies on the Patent Owner's Litigation Counsel of a copy of this Petition and its respective exhibits via electronic mail at the below addresses:

Sichelman@ProgressLLP.com
Goldberg@ProgressLLP.com
Hudnell@ProgressLLP.com

Date: October 20, 2025

/s/ John T. McKee

John T. McKee (Reg. No. 65,926)