

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

RESIDEO TECHNOLOGIES, INC. and
CENTRAL SECURITY GROUP – NATIONWIDE, INC.,¹
Petitioners,
v.
UBIQUITOUS CONNECTIVITY, LP,
Patent Owner.

Case IPR2019-01335

Patent 8,064,935 B2

**PATENT OWNER’S DEMONSTRATIVE
EXHIBITS FOR ORAL ARGUMENT**

¹ Central Security Group – Nationwide, Inc., who filed a petition in IPR2019-01609, has been joined as a petitioner in this proceeding.

Pursuant to the Board's Scheduling Order, Patent Owner Ubiquitous
Connectivity ("Patent Owner") submits the following demonstratives for use at the
oral argument scheduled for October 27, 2020.

Date: October 22, 2020

/Cortney S. Alexander/
Cortney S. Alexander
Reg. No. 54,778
KENT & RISLEY LLC
5755 N Point Pkwy Ste 57
Alpharetta, GA 30022
Phone: 404-855-3867
Fax: 770-462-3299
Email: cortneyalexander@kentrisley.com

*Resideo Techs. and Central Security Group –
Nationwide v. Ubiquitous Connectivity*
IPR2019-01335, -01336, -01609, & -01610

Patent Owner's Demonstrative Exhibits

Microcontroller

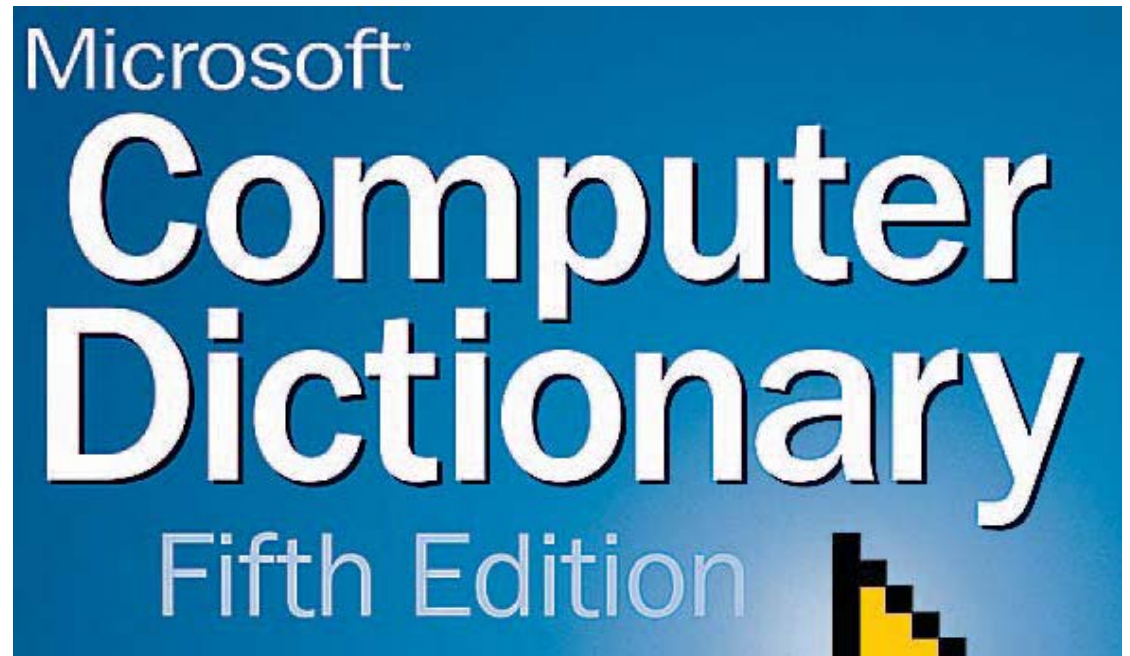
- '935 Patent:
Claims 3, 14, 18, & 21
- '655 Patent:
Claims 1 & 24

PO's construction: "a special-purpose computing device including at least a CPU, main memory, timing circuits, and I/O circuitry designed for a minimal quantity of chips and then programmed to handle a particular task"

'935 Ex. 2004, Zatkovich Decl. ¶48.

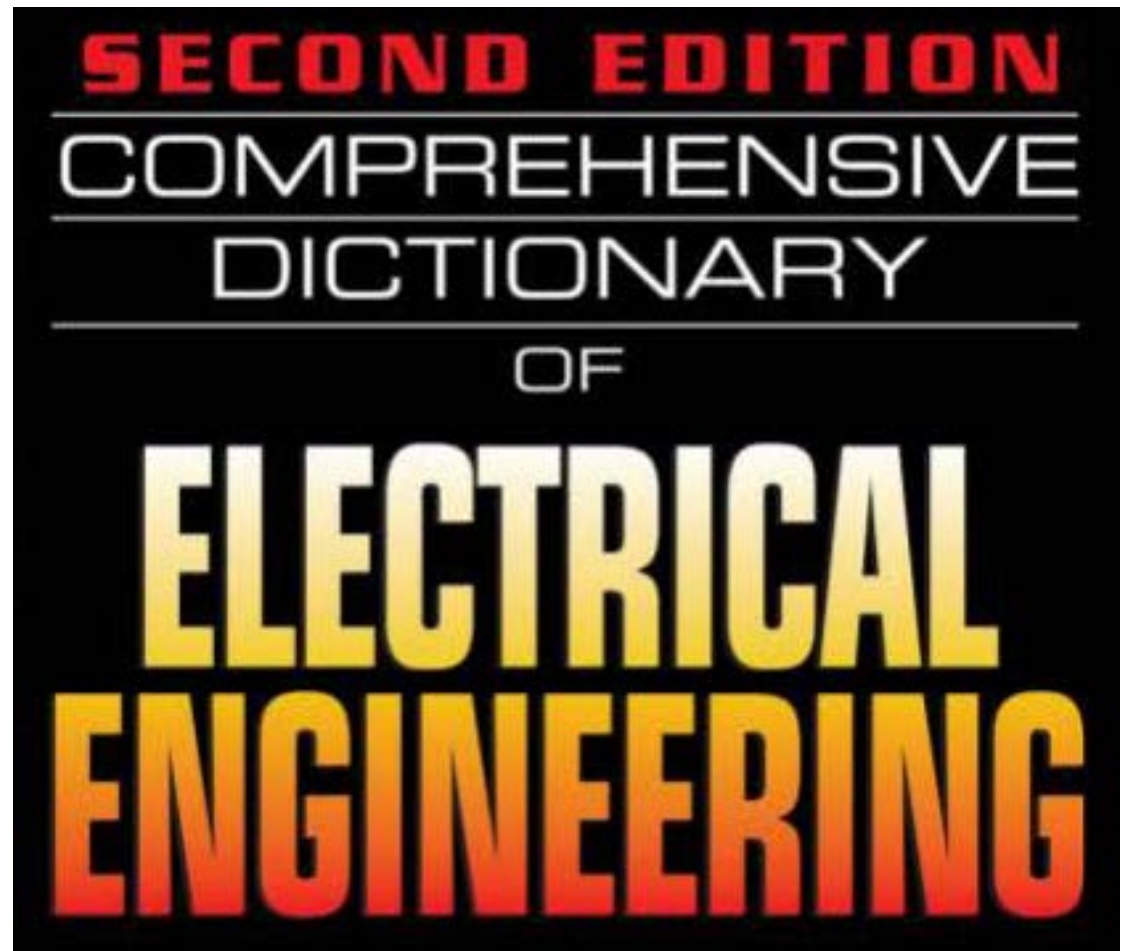
microcontroller *n.* A special-purpose, single-chip computer designed and built to handle a particular, narrowly defined task. In addition to the central processing unit (CPU), a microcontroller usually contains its own memory, input/output channels (ports), and timers. When part of a larger piece of equipment, such as a car or a home appliance, a microcontroller is an embedded system. *See also* embedded system.

'935 Ex. 2006



microcontroller an integrated circuit chip that is designed primarily for control systems and products. In addition to a CPU, a microcontroller typically includes memory, timing circuits, and I/O circuitry. The reason for this is to permit the realization of a controller with a minimal quantity of chips, thus achieving maximal possible minituarization. This in turn, will reduce the volume and the cost of the controller. The microcontroller is normally not used for general-purpose computation as is a microprocessor.

'935 Ex. 2007



Q. So you said by 2004 the term **microcontroller** was not as popular as it had been ten years before. Did the meaning to a person of ordinary skill in the art change between 1994 and 2004?

A. No. **I think it's always -- it's always meant the same thing, that it's a digital electronic -- think of it as a small, you know, embedded processor and memory and I/O, a little teeny computer.**

'935 Ex. 2015, Jeffay Tr. 55:9-18.

narrowly-defined task. **I would agree** that once they are programmed, they typically are **programmed to handle a narrowly-defined task.**

Id., 64:22-65:16.

A. They would say that **the microcontroller** is more of a **system**, a small system, whereas the **microprocessor** would be **just a component** of the system.

Id., 55:9-56:14.

Petitioners' expert on "microcontroller"

Petitioners' expert on
"microcontroller":

Q. Okay. Is there anything else that you disagree with in this definition?

A. No. I mean, I like -- I do like the second sentence. It says, In addition to a CPU, a microcontroller typically includes -- and I would get rid of the word typically -- memory -- well, I guess maybe they don't have to have timing circuits. But I agree with the second sentence that in addition to a CPU, a microcontroller typically includes memory, timing circuits, and I/O circuitry. That I agree with.

'935 Ex. 2015, Jeffay Tr. 74:21-75:2.

'935 Patent,
Fig. 4

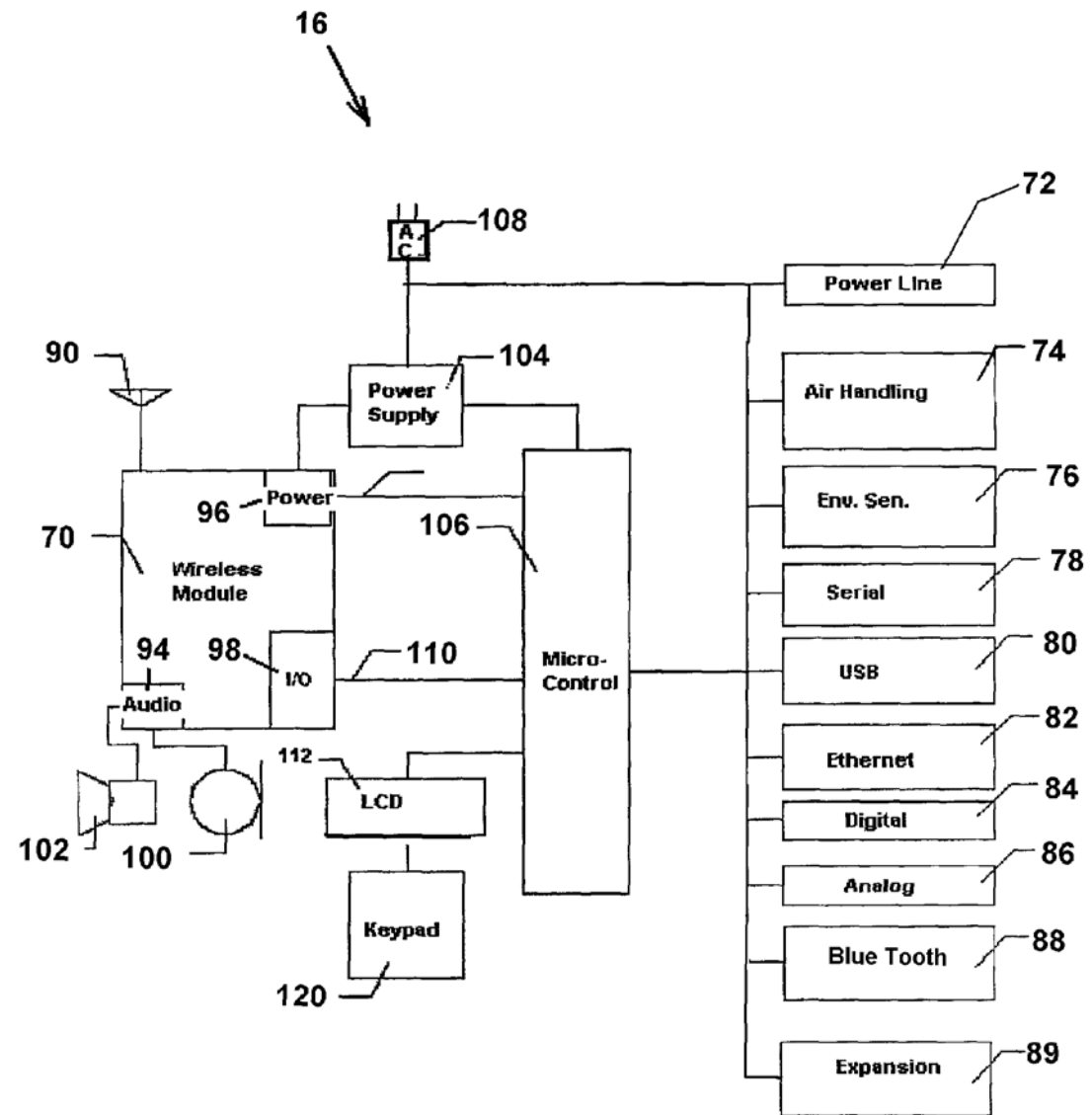


Fig. 4

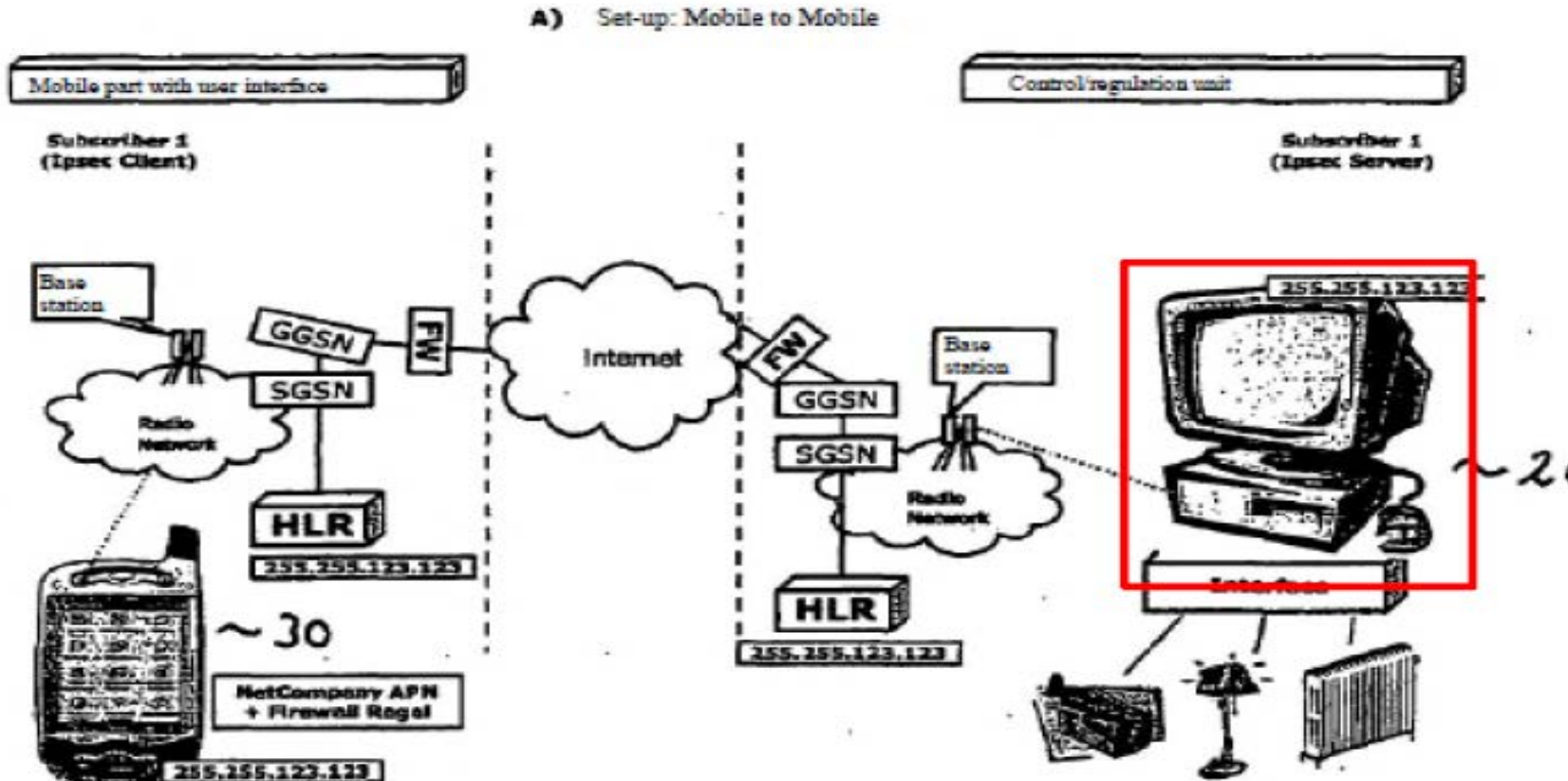
Oinonen, '935 Ex. 1016 at 7:11-21

FIG. 3 shows an advantageous embodiment for the first telecommunication terminal TE1 in a reduced block chart. In this example, the first telecommunication terminal TE1 is a mobile station comprising e.g. a processor 1, such as a microprocessor; an application-specific integrated circuit 2 (ASIC), whereby it is possible to implement a majority of the logic functions of the data processor 1 and simultaneously to reduce the number of separate integrated circuits; a memory 3, a display 4, a keypad 5, a radio element 6, and a connection interface 7. The application software of the

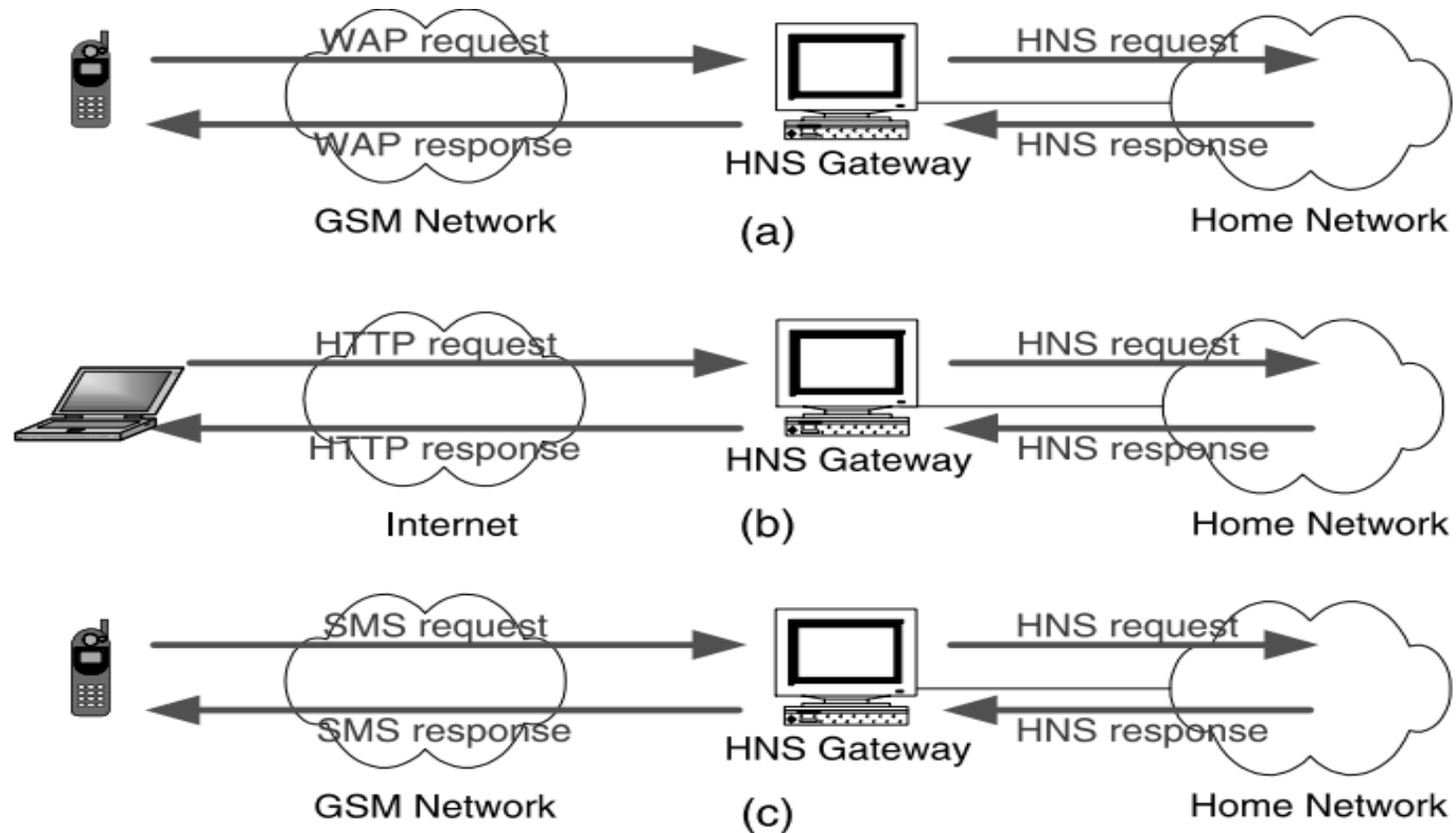
Whitley, '935 Ex. 1023 at 9:1-5

12. Thus, gateways 20 may couple to a remote facility 12 and may monitor, control or both monitor and control various devices within the facility 12, such as lights, security sensors, an answering machine, a home computer, etc. For instance, gateway 20 may be a set-top box, personal computer or other device provided with a processor, such as an Intel 386 or 486 processor, and communicates with various, optionally addressable, devices located throughout the facility. Gateway 20, which may be uniquely addressable, also has

Bielski, '935 Ex. 1017 at Fig. 4A



Wu, '935 Ex. 1018 at Fig. 2



'935 Patent, Claim 4-6

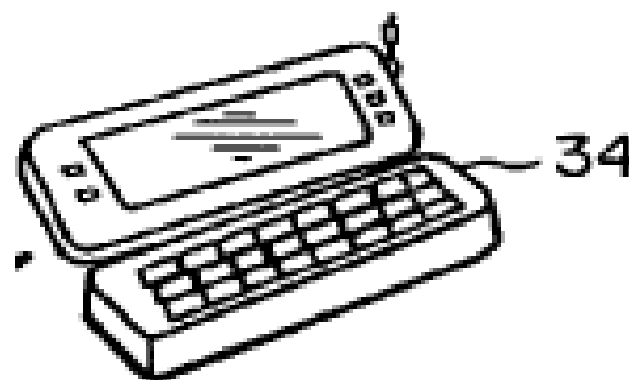
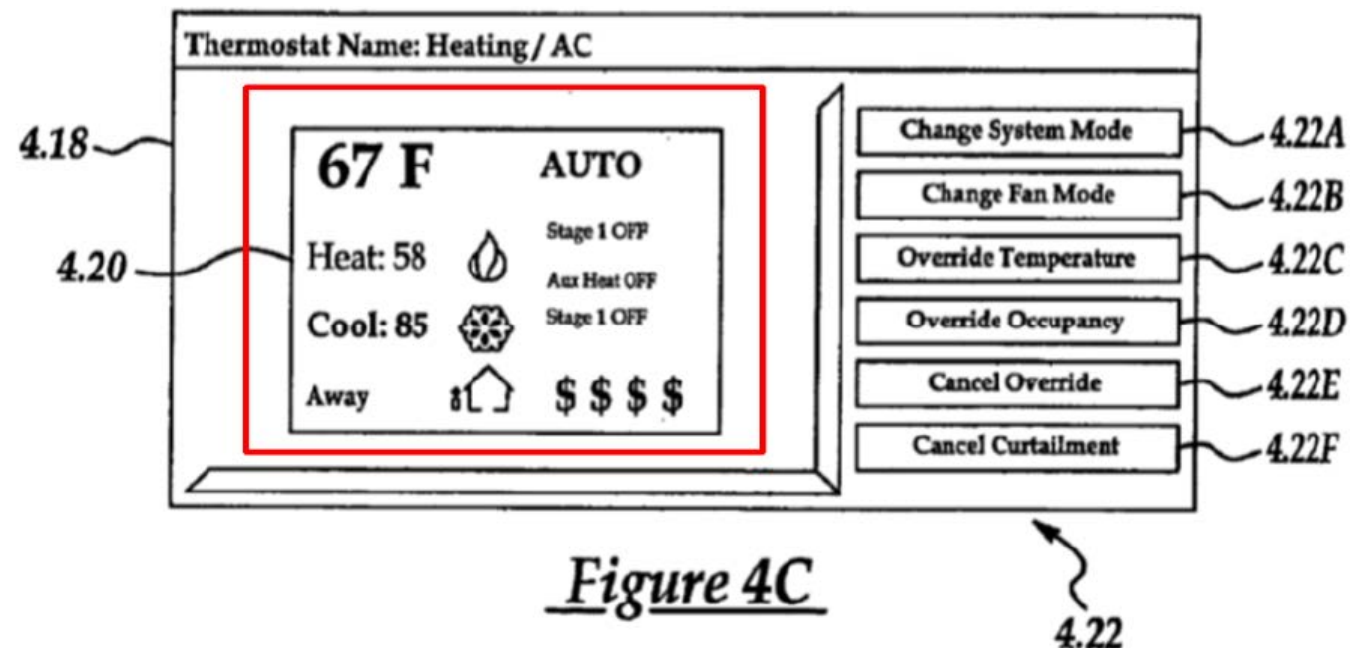
Q. And what are the atypical functions that you can have on your phone based on this disclosure? I guess that is the question. What is the atypical functionality that can be provided through this programming kernel disclosed in the '935 patent?

A. What I tried to say was what they're disclosing further down in column 7 is the ability to provide a SMS-based data pass, so communicate application data on SMS between the remote control units and the base control unit.

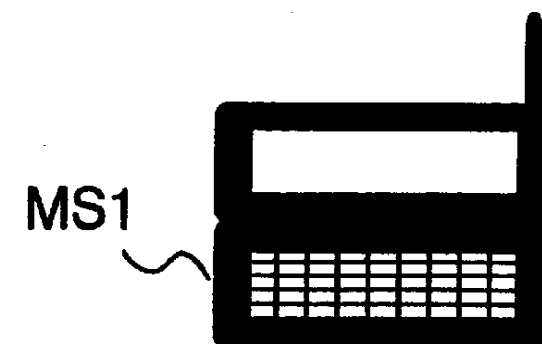
'935 Ex. 2015, Jeffay Tr. at 181:10-182:19.

'935 Patent, Claim 9

Ex. 1022, Ehlers at Fig. 4C.



'935 Ex. 1023, Whitley at Fig. 1.



'935 Ex. 1016, Oinonen at Fig. 1.

'935 Patent, Claim 20

20. A wireless system comprising:
a base unit operatively interfaced with an environmental device for controlling an environmental condition in a structure;
a receiver associated with said base unit, and adapted for receiving a first wireless message from a remote unit having wireless connectivity, wherein the first wireless message includes a command for the environmental device;
a controller operatively associated with said base unit, and operatively connected with the environmental device for executing the command; and
a transmitter operatively associated with the controller for sending a second wireless message to the remote unit, wherein the second wireless message includes information indicating that the command has been executed.

'935 Patent, Claim 22

22. A base unit configured to communicate with an environmental device and to communicate with a remote unit having wireless connectivity, the base unit comprising:
a controller configured to communicate with the environmental device; and
a wireless module configured to:
receive a control message from the remote unit via short message and/or data bearer services, said control message comprising control information for controlling the environmental device;
create a control command for the environmental device based on the control information;
send the control command to the environmental device via the controller; and
send a status message indicating execution of said control information to the remote device.

Menard

“The notification may entail a message such as ‘the police were dispatched at 10:05 AM,’ or ‘response was canceled by RP Susan Smith’ or ‘RP Jones received message and acknowledged receipt.’” ‘935 Ex. 1020, Menard at ¶[0179].

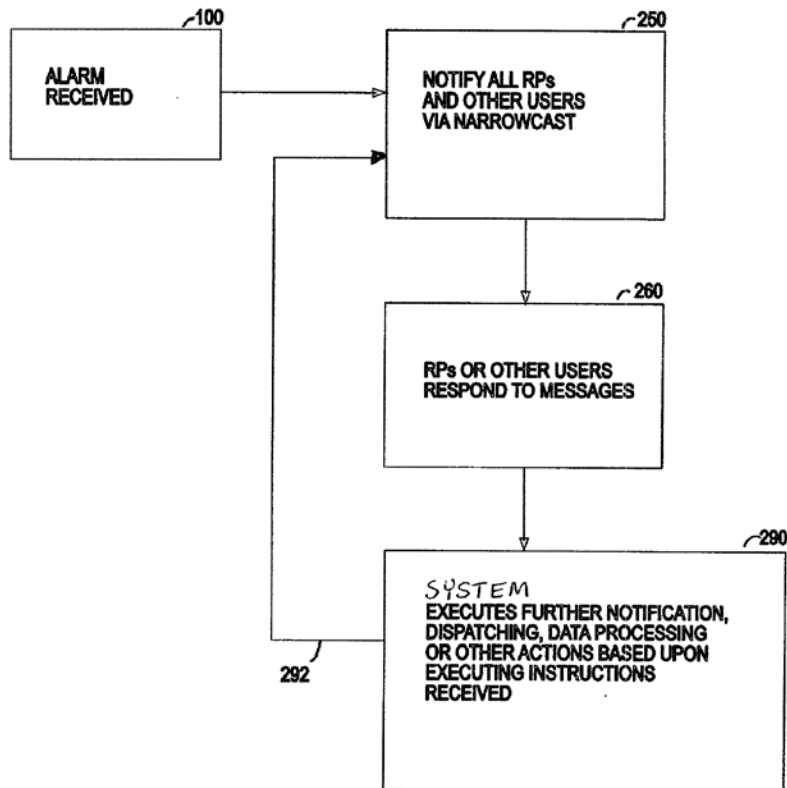


FIG. 2

Patent Owner's Demonstrative Exhibit - Not Evidence

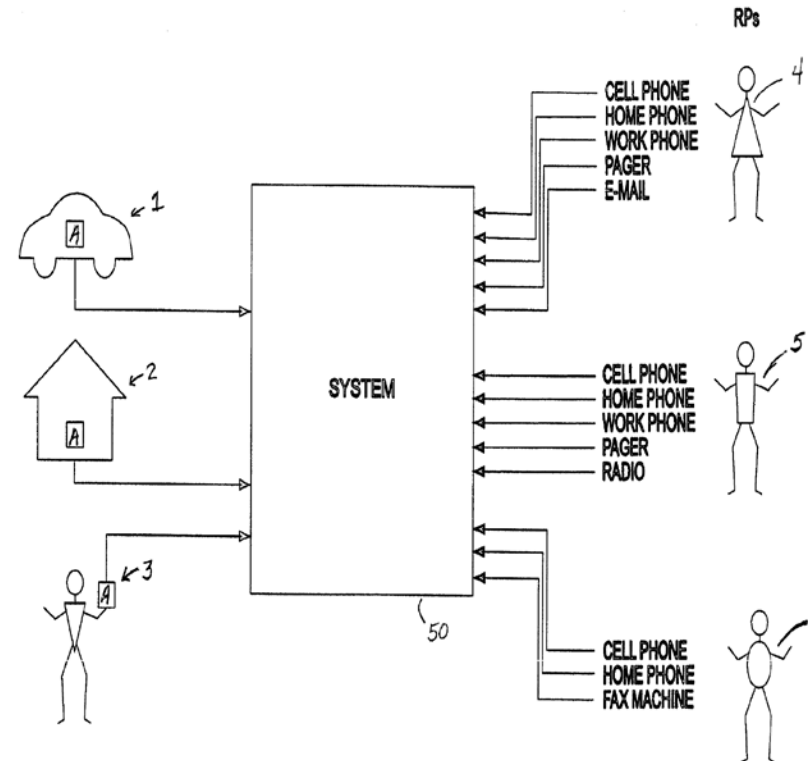


FIG. 1

Patent Owner's DX-16

Menard

“In some cases, the alarm signal is monitored by a central station. In one embodiment, the alarm signal is communicated to a central monitoring station or location, via wired or wireless technology. In one embodiment, the alarm signal is communicated (directly or indirectly) from the alarm system to a responsible party.” ‘935 Ex. 1020, Menard at ¶[018].

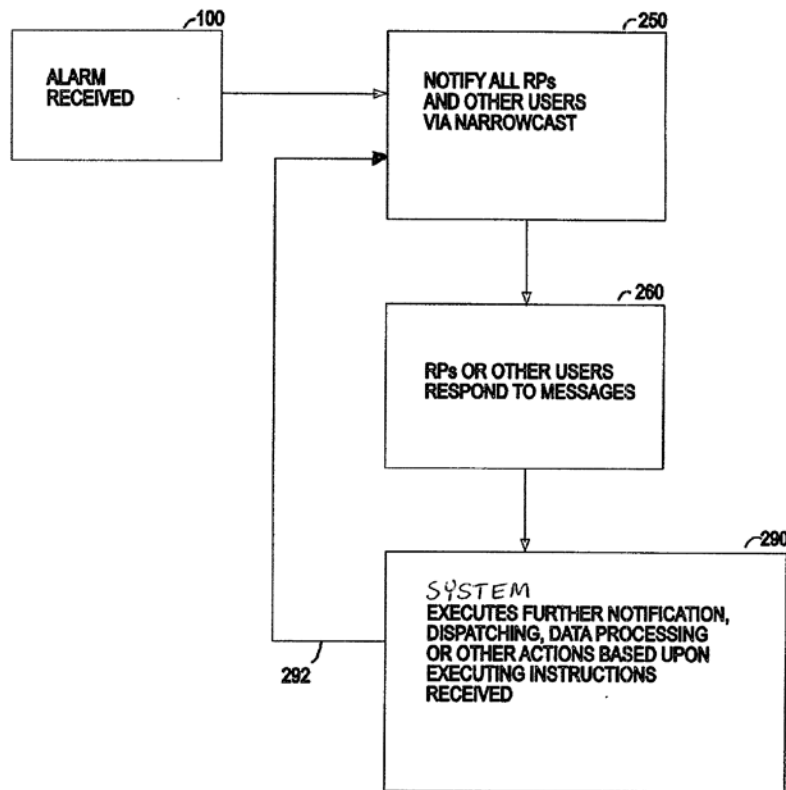


FIG. 2

Patent Owner's Demonstrative Exhibit - Not Evidence

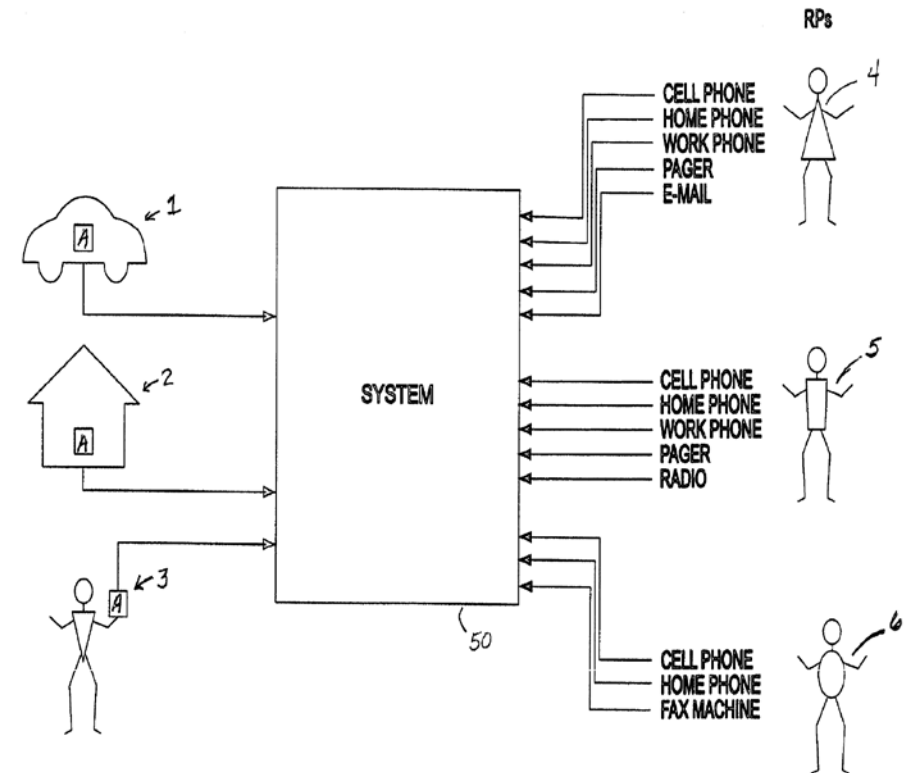


FIG. 1

Patent Owner's DX-17

'655 Patent, Claim 1: A Cellular Remote Unit "Configured to Transmit a Notification Via a Simple Message Service Responsive to Determining that the Cellular Remote Unit is Outside of the Geo-Fence"

'655 Patent:

then programmed into the remote control unit. When the remote control unit travels a distance that exceeds the programmed distance from the base control unit, the remote control unit **reports** this information to the base control unit. The base control unit will then send this information to the appropriate user or to a predetermined class of users. This is an example of geo-fencing and would be typically used to **notify** parents that one of their children has traveled beyond a set distance from the home.

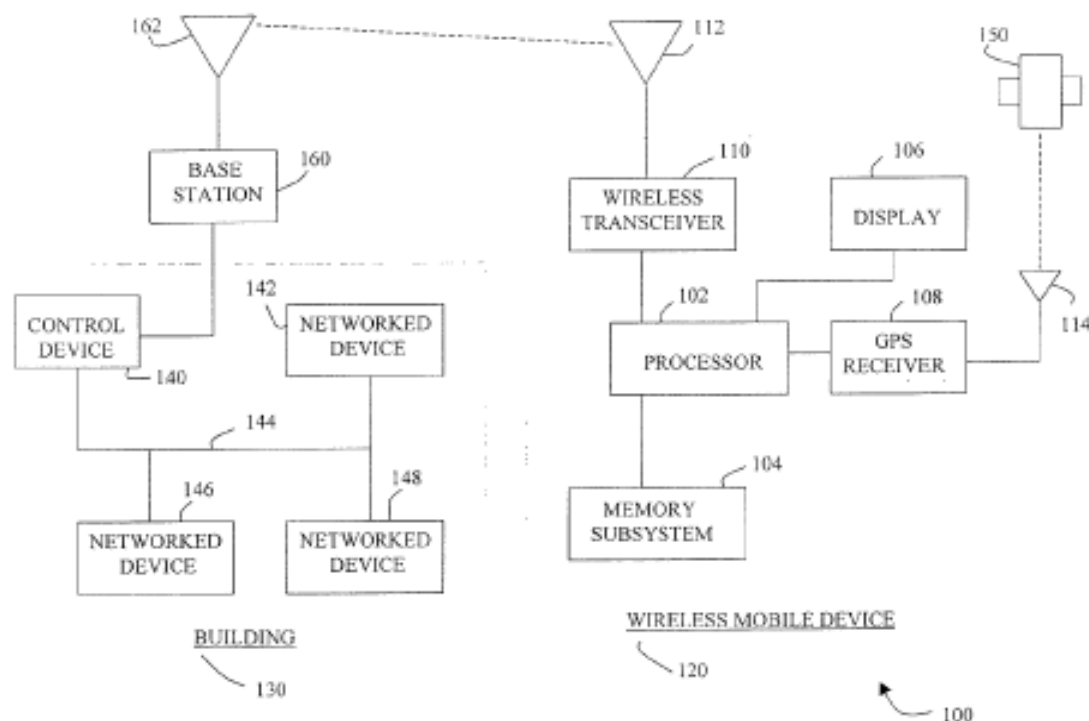
'655 patent at 9:6-14.

Examiner:

geo-fence. Paragraphs [0050] and [0052] of the applicants' specification are the paragraphs that refer to a geo-fence, and none of these paragraphs recite a receiving the command regarding the environmental device responsive to determining that the remote device is within a geo-fence. These paragraphs discloses **reporting** information from the remote control unit to the base control unit based on the geo-fence, but this information **reported** by the remote control unit is that **it has traveled a distance that exceeds a programmed distance from the base control unit**. Therefore, this limitation is

'655 Ex. 1002, '655 File History at 475-76.

Coon: First Embodiment

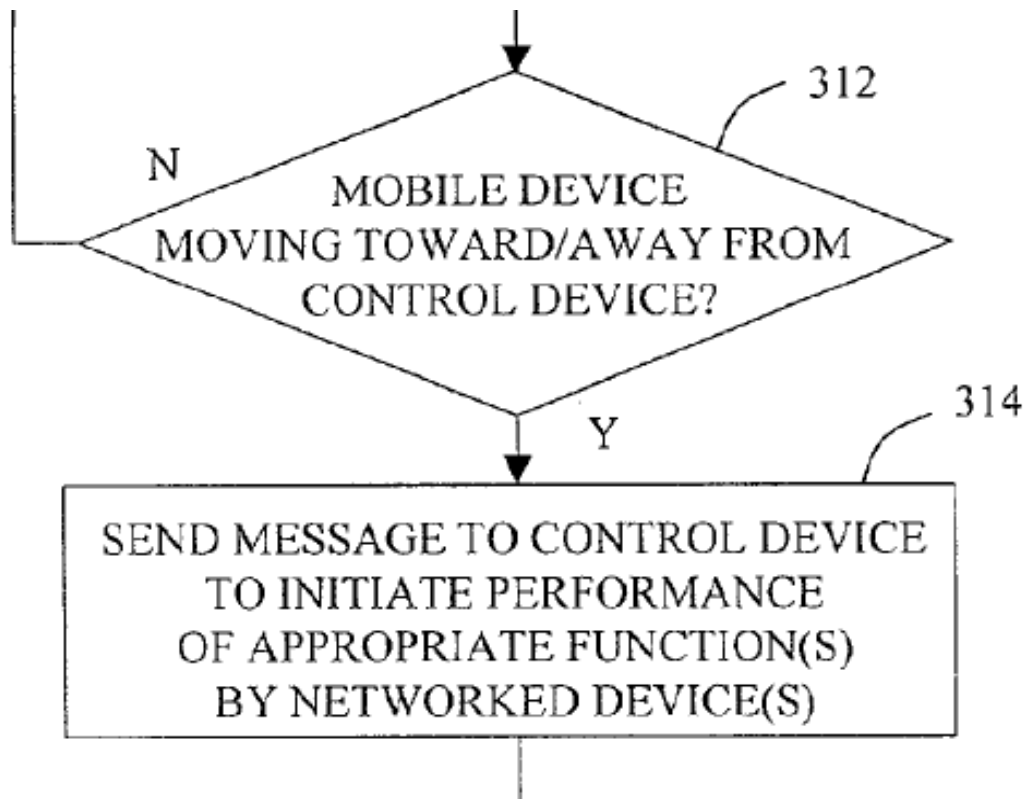


[0014] According to one embodiment of the present invention, a wireless mobile device is in communication with a control device and periodically provides its location to the control device. The control device then determines whether the mobile device is moving toward or away from the control device and if the control device is within a preprogrammed control range. If the mobile device is within a preprogrammed control range, the control device initiates performance of an appropriate function or functions, by the networked device or devices, through the issuance of an appropriate command or commands. In a preferred embodiment, the mobile device is located within a motor vehicle.

‘655 Ex. 1019, Coon at ¶14.

‘655 Ex. 1019, Coon at Fig. 1.

Coon: Second Embodiment



[0015] According to another embodiment of the present invention, the wireless mobile device determines its own location with respect to the control device. When the mobile device is within a predetermined control range, the mobile device sends a message to the control device to initiate performance of an appropriate function or functions, by the networked device or devices. In this manner, various building functions can be initiated based upon the location of the wireless mobile device.

'655 Ex. 1019, Coon at ¶15.

'655 Patent, Claim 24

wherein the wireless communication interface is configured to send a third message to a subordinate remote unit via the communications network and to receive a fourth message from the subordinate remote unit via the communications network,
wherein the fourth message includes a subordinate command to the environmental device, and wherein the microcontroller is configured to process the fourth message and to send selectively a second control instruction based on the subordinate command via the first communication interface to the environmental device.

'655 Patent, 8:12-20

The base control unit 16 is configured to interact with and respond to multiple remote control units 12. If multiple remote control units 12, or associate units 26 are deployed, one of the remote control units could be considered a master and all others could be considered slaves. Specific operational characteristics of the base control unit 16 may be configured as to only respond to commands from the master remote control unit. Alternatively, the remote control units

Lincoln, '655 Ex. 1022 at 22:1-12

switches on a line socket if a room is occupied. In this manner, home appliances, such as a radio, are turned on or off depending on whether someone is present. In further accordance with the present invention, the controller identifies particular individuals using an IR, RF, or light source to communicate with a sensor in the room and conforms activation of the home appliance based on the information stored in the controller regarding previous time periods (for example, individual x listens to new wave music in the morning, but listens to classical in the evening). Conflicts between individuals are settled based upon a priority listing programmed in the system.

Digital communications message ('655 Patent, Claims 1 & 24)

Associated control units **26** and the master control unit **12** utilize the global position network **27** and/or the cellular telephone network **22** and towers **24** in order to determine their geographical locations **14**, **20** and report this information back to the base control unit **16** using the short message and/or **data bearer services** of the cellular telephone network **22** and control towers **24**.

'655 Ex. 1001, '655 patent at 4:1-7.

Q. Is it your understanding in this context that data bearer services refers only to SMS?

A. No. This could also refer to, as I say, you know, TCP/IP data services. And given

'655 Ex. 2014, Jeffay Tr. at 17:13-16.

Petitioners' expert on C applications

A. Well, for the mobile world I think they would choose -- they would be more likely to choose something like Java over C because there was better support for Java in mobile devices. There's -- you know, nobody builds anything from scratch and -- or hasn't for a long time. So when '935 Ex. 2015, Jeffay Tr. at 187:5-12.

A. So this is a technical point, but languages like C, there are no guardrails there. You can get yourself into big trouble writing a C application without knowing it. So the language

Id., 188:3-189:14.

Standard solutions

[0057] The check and communication unit 20 further contains a communication unit which comprises a sending and/or receiving unit by means of which data can be sent and/or received by mobile communication, in particular according to the GSM, GPRS or UMTS standard. Alternatively,

Bielski, '935 Ex. 1017 at ¶57.

business on mobile devices that supported standard SMS communications. As would be understood by a POSITA, certain mobile devices would not have been able to implement HTTP or WAP protocols because of resource constraints, thereby limiting the number of mobile devices that could be used. Instead, by using the SMS protocol, the number of mobile devices that could be used in the monitoring/control system would be increased because SMS was supported on virtually all mobile/cellular devices. As such, a POSITA would have been

'935 Ex. 1003, Jeffay Decl. ¶499.

CERTIFICATE OF SERVICE

The undersigned certifies that on October 22, 2020, a copy of the foregoing was provided via electronic service to the Petitioner by serving the correspondence addresses of record as follows:

S. Benjamin Pleune (ben.pleune@alston.com)
Christopher T.L. Douglas (christopher.douglas@alston.com)
Adam J. Doane (adam.doane@alston.com)
Alston & Bird LLP
Bank of America Plaza
101 South Tryon Street, Suite 4000
Charlotte, NC 28280-4000
Tel: 704.444.1000
Fax: 704.444.1111

Joshua Griswold
Bret Winterle
Fish & Richardson P.C.
3200 RBC Plaza
60 South Sixth Street
Minneapolis, MN 55402
Tel: 202-783-5070
Fax: 877-769-7945
griswold@fr.com
winterle@fr.com
PTABInbound@fr.com
IPR41313-000001IP1@fr.com

Anita M. C. Spieth
Peter A. Flynn
Stephanie Schonewald
Choate Hall & Stewart
Two International Place
Boston, MA 02110
Tel: (617) 248-5000
Fax: (617) 248-4000

aspieth@choate.com
pflynn@choate.com
sschonewald@choate.com

/Cortney S. Alexander/
Cortney S. Alexander
Reg. No. 54,778
Kent & Risley LLC
5755 N Point Pkwy Ste. 57
Alpharetta, GA 30022
Phone: 404-855-3867
Fax: 770-462-3299
Email: cortneyalexander@kentrisley.com