Jean-Marc Zimmerman (# 037451989)
Zimmerman Law Group
233 Watchung Fork
Westfield, NJ 07090
T: (908) 768-6408
F: (908) 935-0751
jmz@zimllp.com

Attorneys for Plaintiff
Karamelion LLC

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW JERSEY

KARAMELION LLC, Plaintiff, v. **ESSENCE USA INC.,** Defendant.	CASE NO. _____ **JURY TRIAL DEMANDED** **PATENT CASE**

ORIGINAL COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Karamelion LLC, files this Original Complaint for Patent Infringement against Essence USA Inc., and would respectfully show the Court as follows:

I. THE PARTIES

1. Plaintiff Karamelion LLC ("Karamelion" or "Plaintiff") is a Texas limited liability company with its principal place of business at 5570 FM 423, Suite 250 #2022, Frisco, TX 75034.

2. On information and belief, Defendant Essence USA Inc. ("Defendant") is a corporation organized and existing under the laws of New Jersey, with a place of business at 70 Hudson St. Suite 6A Hoboken, NJ 07030.

II. JURISDICTION AND VENUE

3. This action arises under the patent laws of the United States, Title 35 of the United States Code. This Court has subject matter jurisdiction of such action under 28 U.S.C. §§ 1331 and 1338(a).

4. On information and belief, Defendant is subject to this Court's specific and general personal jurisdiction, pursuant to due process and the New Jersey Long-Arm Statute, due at least to its existence as a New Jersey corporation that resides in New Jersey and its places of business in New Jersey.

5. Without limitation, on information and belief, within this state, Defendant has used the patented inventions thereby committing, and continuing to commit, acts of patent infringement alleged herein. In addition, on information and belief, Defendant has derived revenues from its infringing acts occurring within New Jersey. Further, on information and belief, Defendant is subject to the Court's general jurisdiction, including from regularly doing or soliciting business, engaging in other persistent courses of conduct, generating substantial revenue, and from residing in New Jersey as a New Jersey corporation. Further, on information and belief, Defendant is subject to the Court's personal jurisdiction at least due to its sale of products and/or services within New Jersey and its existence in New Jersey as a New Jersey corporation. Defendant has committed such purposeful acts and/or transactions in New Jersey such that it reasonably should know and expect that it could be haled into this Court as a consequence of such activity.

6. Venue is proper in this district under 28 U.S.C. § 1400(b). On information and belief, Defendant is incorporated in New Jersey. Under the patent venue analysis, Defendant

resides only in this District. On information and belief, from and within this District Defendant has committed at least a portion of the infringements at issue in this case.

7. For these reasons, personal jurisdiction exists and venue is proper in this Court under 28 U.S.C. § 1400(b).

III. COUNT I
(PATENT INFRINGEMENT OF UNITED STATES PATENT NO. 6,275,166)

8. Plaintiff incorporates the above paragraphs herein by reference.

9. On August 14, 2001, United States Patent No. 6,275,166 ("the '166 Patent") was duly and legally issued by the United States Patent and Trademark Office. The application leading to the '166 patent was filed on January 19, 1999. (Ex. A at cover). The '166 Patent is titled "RF Remote Appliance Control/Monitoring System." A true and correct copy of the '166 Patent is attached hereto as Exhibit A and incorporated herein by reference.

10. Plaintiff is the assignee of all right, title and interest in the '166 patent, including all rights to enforce and prosecute actions for infringement and to collect damages for all relevant times against infringers of the '166 Patent. Accordingly, Plaintiff possesses the exclusive right and standing to prosecute the present action for infringement of the '166 Patent by Defendant.

11. The invention in the '166 Patent relates to control and monitoring of distributed systems in buildings such as systems for controlling and monitoring heating, air conditioning, lighting, security, occupancy, and usage of distributed facilities. (Ex. A at col. 1:5-12). Control of such distributed systems in the prior art commonly used computer networks and business software. (*Id.* at col. 1:11-13). A major difficult with such systems was the expense of wiring inter-connections between elements of the system, particularly when there are additions or changes to be made in the system. (*Id.* at col. 1:14-18). Prior art attempts to reduce the expense

of the systems included using efficient network products such as using a widely known Ethernet standard, using AC power wiring to transmit RF communications to remove controllers, and using a combination of wired and wireless communications. (*Id.* at col. 1:18-27).

12. However, these centralized wireless control systems for building appliances have not been widely used mainly because systems that have a sufficient communication ranges are normally subject to regulations and licensing requirements that are prohibitively expensive. (*Id.* at col. 1:28-32). Also, systems that are powerful enough to be used in widely distributed installations are unnecessarily expensive to be used in smaller installations. (*Id.* at col. 1:32-34). With respect to wireless communication, there is limited availability of RF carrier frequencies, and potential interference with other nearby systems that might be operating in similar frequencies. (*Id.* at col. 1:34-37). Because of the continued deficiencies of the prior art solutions, there was a need for a wireless appliance control system that overcomes the disadvantages of the prior art solutions. (*Id.* at col. 1:38-39).

13. The inventors developed an invention that "meets this need by providing a wireless configuration that uses a distributed array of low power (short range) wireless controllers that are also functional as relay units for communicating with a headend control computer at long range." (*Id.* at col. 1:42-46).

14. The '166 patent discloses exemplary embodiments of the claimed invention. The claimed invention is typically implemented in a building or location that has an appliance control/monitoring system. (*Id.* at col. 3:64 – col. 4:7). For example, the following figure is of a building (11) having a distributed array of appliance management stations (12) that wirelessly communicate with a headend control station (14) (*Id.* at col. 3:66 – col. 4:4):

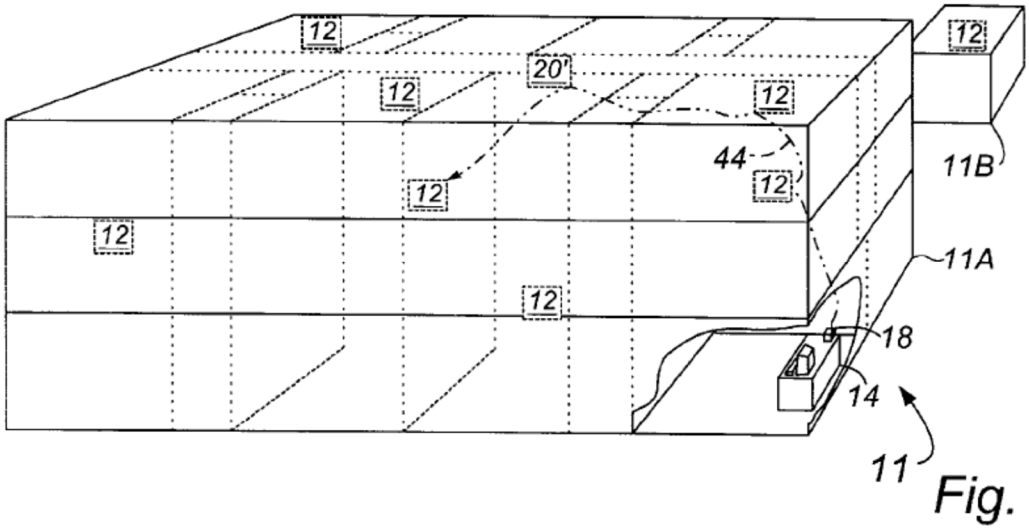


Fig. 2.

The typical appliances connected to the appliance control/monitoring system are heating, ventilation and air conditioning units (HVAC), temperature sensors, motion detectors, and audio/video devices. (*Id.* at col. 1:5-9, col. 4:54-61). The appliances are interfaced with relay units that have appliance interface/controllers to communicate with the appliance and satellite radio transceivers. (*Id.* at col. 4:62-66). The satellite radio transceivers of the relay units are operable at low power and have a limited wireless communications range that reaches only a portion of the building or location. (*Id.* at col. 4:62-66). In order to for the relay units to communicate beyond their limited wireless range, they communicate by relaying transmissions using intermediate relay units to the intended destination. (*Id.* at col. 4:66 – col. 5:1). An exemplary simplified circuit block diagram of the appliance controller portion of the relay unit, including a satellite radio transceiver, is shown in Figure 3 of the '166 patent:

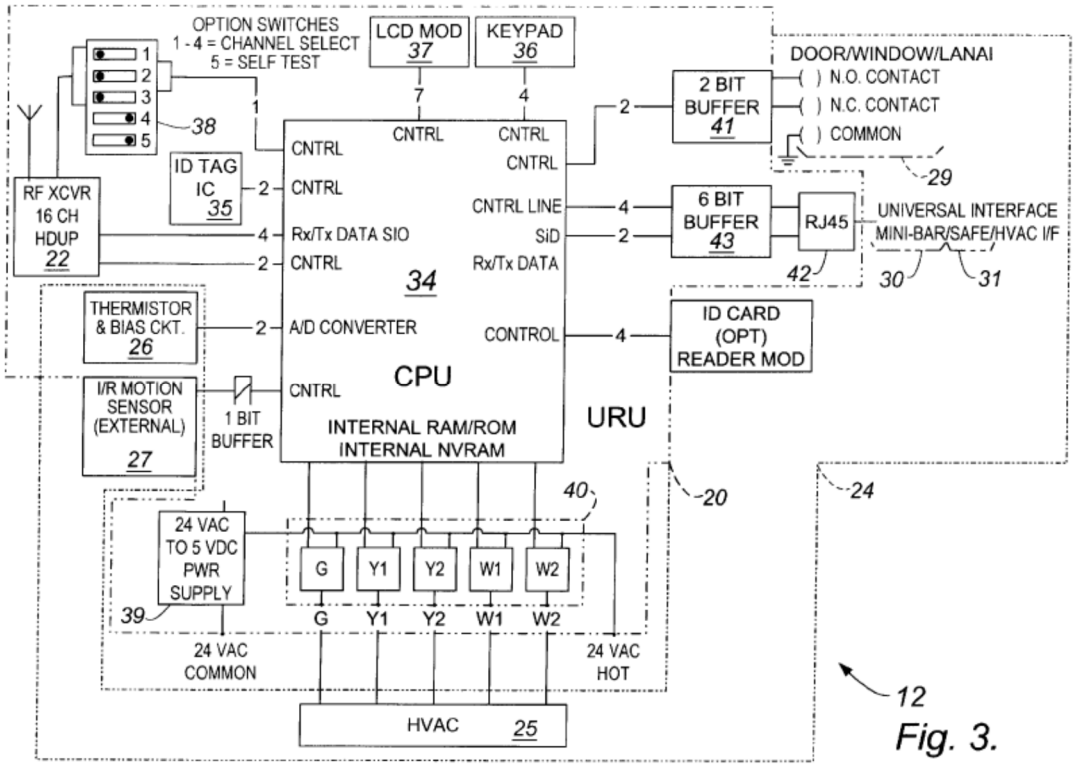


Fig. 3.

(Ex. A). The microprocessor (34) is connected between a satellite transceiver (22) and the appliance device (24). (*Id.* at col. 5:13-15).

15. The '188 patent includes a diagram of an exemplary command protocol (Fig. 4) and exemplary return protocol (Fig. 5):

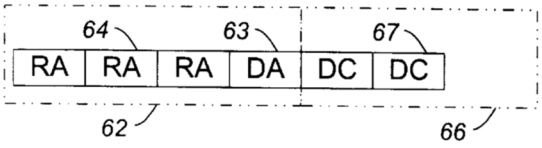


Fig. 4. 60

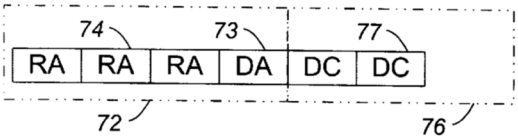
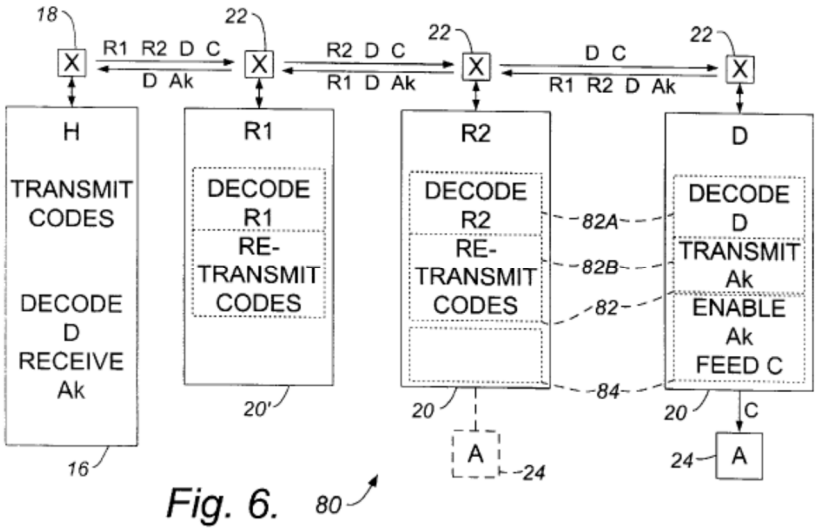


Fig. 5. 70

(Ex. A). The exemplary command protocol includes an address section (62) that includes a destination address (63) and may include relay addresses (64) so that the message may be relayed to another device. (*Id.* at col. 7:40-43). Following the address section is a command section (66) that includes device commands (67) that are directed to particular appliance devices at the destination relay unit. (*Id.* at col. 7:43-47). The exemplary return protocol includes a

counterpart of the address section (72) that includes a destination address (73) and relay addresses (74). (*Id.* at col. 7:48-51). Following the address section of the return protocol is a feedback section (76) that include feedback elements (77) that are responsive to the appliance devices at the destination relay unit. (*Id.* at col. 7:51-55).

16. A pictorial diagram showing an exemplary process for using a portion of the system is shown in Figure 6 of the '166 patent:



(Ex. A). A transmitter in the headend computer (H) signals the addresses of relay units (20), with one of the addresses being the destination address (D), and the other addresses include a first and second relay address (R1, R2), and a control signal (C) for appliance (A) being interfaced to the destination relay unit (D). (*Id.* at col. 7:56-65). The first relay unit decodes the first relay address, and transmits the control signal, the second relay address and the destination address from the first relay unit; the same steps occur at the second relay unit but with respect to decoding the second relay address. (*Id.* at col. 7:65 – col. 8:1). The destination relay unit decodes the destination address and feeds the control signal to the appliance; then the destination unit transmits the destination address, the first and second relay addresses, and an acknowledgement signal (Ak). (*Id.* at col. 8:2-6). The second relay unit decodes the second

relay address, and then transmits the acknowledgement signal (Ak), the first relay address, and the destination address; the same steps occur at the first relay unit but with respect to decoding the first relay address. (*Id.* at col. 8:6-9). The headend computer decodes the destination address and receives the acknowledgement signal (Ak). (*Id.* at col. 8:9-11). The decoding and transmitting in the relay units are implemented by first and second instruction portions (82A, 82B), respectively, of the relay program (82). (*Id.* at col. 8:11-14). The feeding of the control signal by the relay unit to the appliance and generating the acknowledgement signal occurs in the appliance program (84). (*Id.* at col. 8:14-16). Both the relay program and appliance program are in the microcomputer memory of each relay unit. (*Id.* at col. 8:16-18).

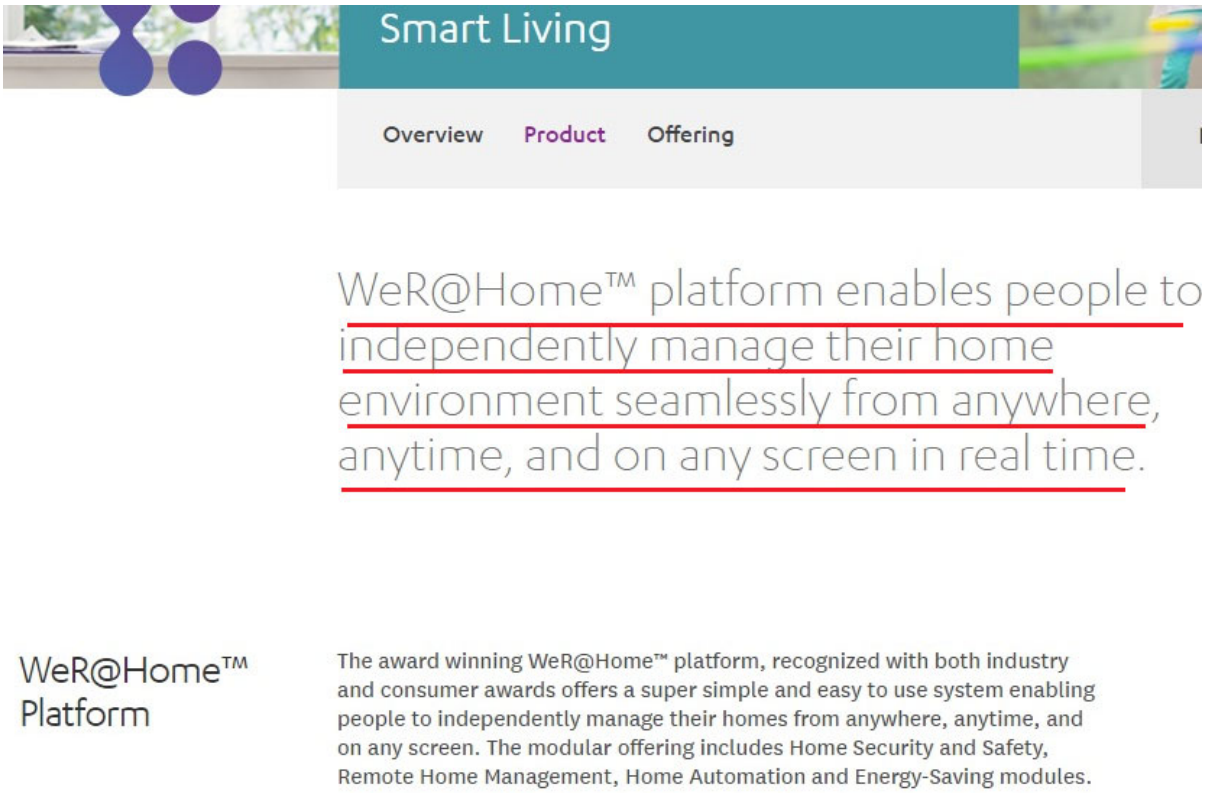
17. As explained during the prosecution history, the prior art did not teach a relay unit being an appliance controller that communicated with a headend computer using at least two other relay units. The invention therefore overcame the prior art, which were excessively expensive, had insufficient bandwidth, were ineffective in serving multiple devices, were unreliable, and were difficult to use. (Ex. B at col. 1:43-51).

18. **Direct Infringement.** Upon information and belief, Defendant has been directly infringed claim 16 of the '166 patent in New Jersey, and elsewhere in the United States, by performing actions comprising using an appliance controller for a distributed appliance system having a headend computer to satisfy the method steps of claim 16, including without limitation the WeR@ Home Hub, Z-Wave Extender, Motion Detector, Door/Window Sensor, Siren, Flood Sensor ("Accused Instrumentality"). (*e.g.*, https://web.archive.org/web/20160328193517/http://www.essence-grp.com/smart-living/wer-at-home; https://web.archive.org/web/20160317014226/http://www.essence-grp.com/news-and-events/news/essence-expands-service-provider-smart-home-platform; https://go.essence-

grp.com/hubfs/PDF%20WEBSITE/WeRatHome%20Datasheets/WeRatHome%20Security%20Devices/wer_home_hub.pdf).

19. On information and belief, Defendant performed the step of providing a headend computer having a main radio transceiver. For example, at least through testing and demonstrations, Defendant provides a primary controller such as the Wer@ Home Hub.

20. On information and belief, Defendant performs the step of providing a distributed array of relay units, each relay unit having a satellite radio transceiver and a unique serial number, at least some of the relay units being electrically interfaced to a corresponding portion of the appliances. For example, Defendant provides a distributed array of relay units (*e.g.*, Z-Wave Extender, Motion Detector, Door/Window Sensor, Siren, Flood Sensor acting as a repeater) each relay unit having a satellite radio transceiver (*e.g.*, a Z-Wave radio) and a unique serial number (*e.g.*, a NodeID), at least some of the relay units (*e.g.*, hardware within the appliance that allows for it to function as a repeater) being electrically interfaced to a corresponding portion of the appliances (*e.g.*, the hardware related to an appliance's repeater functionality is electrically connect to an appliance; *e.g.*, in the case of a Motion Detector, Door/Window Sensor, Siren, or Flood Sensor, the controller will have hardware allowing for it to serve as a repeater such as a Z-Wave radio, that is electronically connected to an appliance).



(https://web.archive.org/web/20160328193517/http://www.essence-grp.com/smart-living/wer-at-home).[1]

Essence service platforms offer two flagship products: WeR@Home and Care@Home.

WeR@Home delivers a complete DIY home management, security, and safety solution. Thanks to its Z-Wave compatibility, consumers can control more than 1,000 other home management devices from Essence's easy-to-use app from any screen and device. Care@Home is a suite of senior telecare solutions focused on increasing the independence of the elderly living at home.

Essence announces a new partner, FPT Telecom, Vietnam's second largest mobile telecommunications operator, which will soon be launching its service based on Essence's WeR@Home Connected Home platform. FPT is currently in the midst of a pilot to provide its users with a seamless Smart Home experience, providing home management, safety, and security. As Essence's first mobile operator in Asia, WeR@Home allows FPT to take a leadership role in bringing the connected home to the Vietnamese market.

(https://web.archive.org/web/20160317014226/http://www.essence-grp.com/news-and-

[1] Red boxes and lines are added unless otherwise noted.

events/news/essence-expands-service-provider-smart-home-platform).

WeR@Home™ Smart Living

The WeR@Home™ suite allows living life fully through smart connected homes

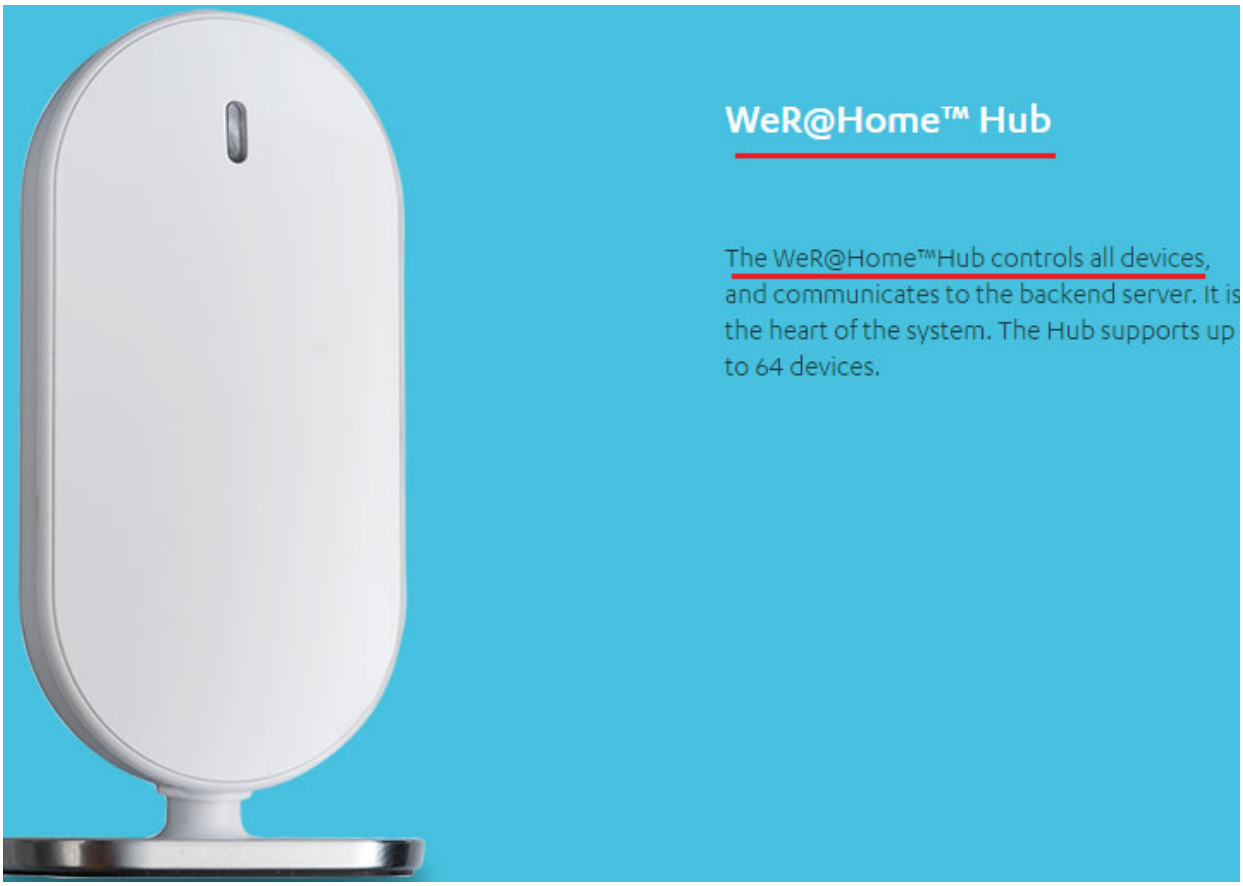
- Home security and safety at the core
- Notifications of security events and remote management of the home in real time
- Modular and expandable - manage connected home devices with Z-Wave® expansion
- Smart Rule engine for automation – decide which device, condition, or event will trigger which actions and at what time
- Live HD video – anytime, on any screen
- Save energy and money by ensuring that lights and air conditioning are turned off when not at home

(https://go.essence-grp.com/hubfs/PDF%20WEBSITE/WeRatHome%20Datasheets/WeRatHome%20Security%20Devices/wer_home_hub.pdf).

The WeR@Home™ Hub is an intelligent, home control panel for managing and communicating with the on-site WeR@Home™ peripherals. The Hub is the central gateway that connects to the mobile app and to the WeR@Home™ Servers. Features include:

- User remote control and management access to the system, via the cloud, using smartphones, tablets, and PCs
- User interface software available for iOS™ and Android™ operating systems and Windows®-based browsers
- Optional built-in 3G/4G(HSPA+) modem with automatic APN setting and support for 850/900/1800/1900 MHz bands
- Support of up to 64 security peripherals, 24 safety peripherals and up to 32 users, including two master users
- Home automation functionality from the Z-Wave® network can be integrated with WeR@Home™ by connecting the Z-Wave® Plus Extender

(*Id.*).



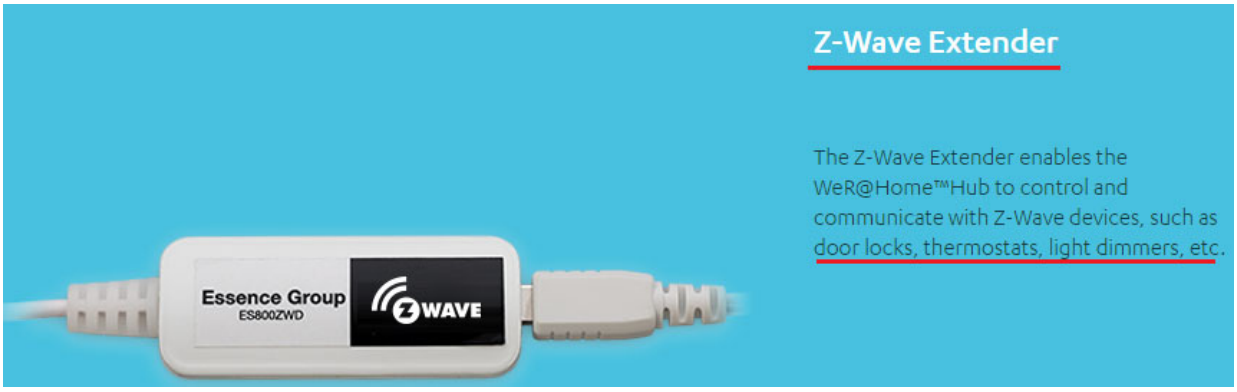
(https://web.archive.org/web/20160328193517/http://www.essence-grp.com/smart-living/wer-at-home).


Motion Detector
Motion detector is used to detect movement within the sensor's range.

(*Id.*).


Door/Window Sensor
The door/window sensor can be applied to any door/window within the home and sends alerts when a door/window is opened or closed.

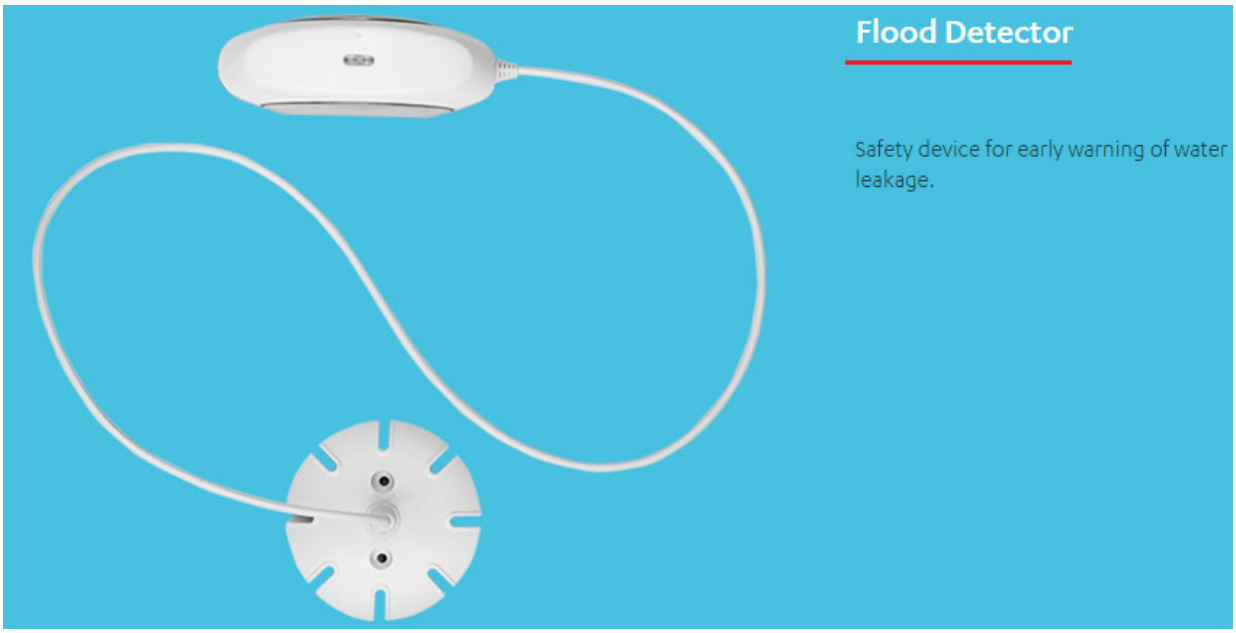
(*Id.*).


Z-Wave Extender
The Z-Wave Extender enables the WeR@Home™Hub to control and communicate with Z-Wave devices, such as door locks, thermostats, light dimmers, etc.
Essence Group
ES800ZWD
Z WAVE

(*Id.*).


Siren
Battery-operated indoor siren provides high-decibel sound upon event triggering, and has different sounds according to the alert. Can be disabled remotely through the app.

(*Id.*).

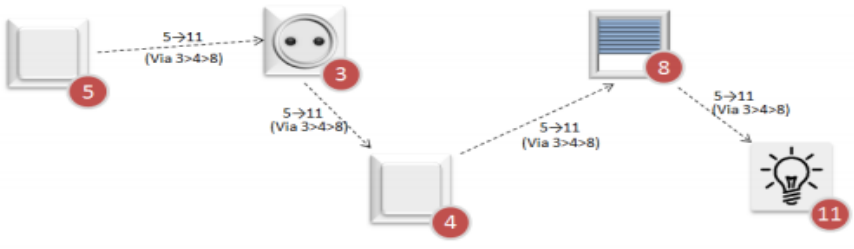


(*Id.*).

The Z-Wave Protocol handles transmissions to destinations all over the network. If necessary, other nodes are used as repeaters. This is called routing.

During bootstrapping, the Primary Controller asks the new node to discover its neighbors. Thanks to the neighbor nodes information, the Primary Controller builds a network map and knows the different possible routes to reach a node.

When using repeaters, the Sending node includes the route information in the frame. Each repeater parses the routing information and forwards the frame accordingly.



Example 4: Routing via repeaters

Routing may also be used during inclusion if a node is not within direct range of the Primary Controller.

(http://zwavepublic.com/sites/default/files/APL13031-2%20-%20Z-

Wave%20Networking%20Basics.pdf).

Z-Wave Alliance Recommendation ZAD12837-1

Z-Wave Transceivers – Specification of Spectrum Related Components

(2014)

Scope

This Recommendation provides guidelines pertaining to spectrum usage of the short range narrowband digital radiocommunication transceivers complying with ITU-T Recommendation G.9959. ITU-T Recommendation G.9959 contains the system architecture, physical layer (PHY) and medium access control layer (MAC) specifications for G.9959 compliant transceivers.

References

[1] Recommendation ITU-T G.9959, *Short range narrowband digital radiocommunication transceivers – PHY & MAC layer specifications*

Definitions

This Recommendation uses the following definitions:

Channel: a transmission path between nodes. One channel is considered to be one transmission path. Logically a channel is an instance of the communications medium used for the purpose of passing data between two or more nodes.

Node: any network device that contains a G.9959 transceiver. In the context of this Recommendation, use of the term 'node' without a qualifier means 'G.9959 node'.

(https://z-wavealliance.org/wp-content/uploads/2015/02/ZAD12837-1.pdf).

This command is used to set the network route to use when sending commands to the specified NodeID.

The use of this command is NOT RECOMMENDED.

7	6	5	4	3	2	1	0
COMMAND_CLASS = NETWORK_MANAGEMENT_INSTALLATION_MAINTENANCE							
COMMAND = PRIORITY_ROUTE_SET							
NodeID							
Repeater 1 [First repeater]							
Repeater 2							
Repeater 3							
Repeater 4 [Last repeater]							
Speed							

NodeID (1 byte)

This field is used to specify the destination NodeID for which a last working route MUST be set.

Repeater (4 bytes)

This field is used to specify repeaters for the route. Each byte represents a NodeID and the first field (Repeater 1) is the first repeater of the route.

The value 0x00 MUST indicate that the byte does not represent a repeater. If the route is shorter than four repeaters, unused repeaters fields MUST be set to 0x00. If Repeater 1 is set to 0x00, it means that the Last Working Route is direct (nodes are within direct reach).

(http://zwavepublic.com/sites/default/files/command_class_specs_2017A/SDS13784-4%20Z-Wave%20Network-Protocol%20Command%20Class%20Specification.pdf).

After Inclusion

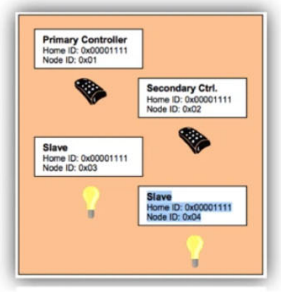


Figure 4 - Network after Inclusion

After successful Inclusion, all nodes have the same Home ID - they are connected to the same network. They also each have a unique Node ID, allowing them to be individually identified and communicate with each other.

In this example there are two controllers. The controller whose Home ID, became the Home ID for all devices, is called the 'primary controller.' All other controllers become 'secondary controllers.'

The primary controller can include further devices, whereas the secondary controller cannot. However, the primary and secondary controllers operate the same in all other respects.

(https://www.vesternet.com/pages/understanding-z-wave-networks-nodes-devices).

The Z-Wave routing layer controls the routing of frames from one node to another. Both controllers and slaves can participate in routing of frames in case they're always listening and have a static position. The layer is responsible for both sending a frame with a correct repeater list and ensuring that the frame is repeated from node to node. In the case of the controller device, the routing layer is also responsible for scanning the network topology and maintaining a routing table.

The Z-Wave application layer is responsible for decoding and executing commands in a Z-Wave network. The application layer frame contains a header that describes the type of frame, command information, and associated parameters. Commands are divided into two classes: Z-Wave protocol commands and application-specific commands. For most devices protocol-related commands cover only Home ID and Node ID assignment logic, but in more complex devices, such as the Static Update Controller (SUC) or SUC ID Server (SIS), additional network management functions are added.

Each Z-Wave network has a unique 32-bit identifier called *Home ID* . Controller devices have a preassigned network ID, slave devices obtain the Home ID from the controller upon joining the network. If another controller device joins the network, it inherits the Home ID from the primary controller.

Individual nodes in the network are addressed using an 8-bit *Node ID* that is assigned by the controller as well. The Node ID is unique only in the scope of its network.

To obtain node-specific information, Z-Wave uses a *node information frame* . This frame is part of the Z-Wave protocol and specifies the capabilities of the node. These capabilities are the node type, whether the node is able to repeat frames, and other protocol-relevant issues. The node information frame also contains the Home ID and the Node ID.

It is possible for the application to ask for the node information frame from all nodes in the network and hence enable any node to acquire information regarding any node's features in the network at any given time.

Device types

There are two main types of devices defined in Z-Wave protocol: controllers and slaves. *Controllers* are able to initiate transmission as well as hold all the smarts related to network routings. Slaves, on the other hand, are just end devices with general-purpose input output (GPIO)-type functionality that blindly execute the controller's requests. It's true for message retransmission as well: in the received packet the controller instructs a particular slave whether the message should be retransmitted or not.

Controllers are differentiated further depending on their functionality in the network. Major types are portable and static controllers.

(https://www.embedded.com/catching-the-z-wave/).

21. On information and belief, in at least internal testing and usage, Defendant performs the step of signaling, by a main transmitter from the headend computer (*e.g.*, the WeR@ Home Hub serving as a controller) the addresses of at least three relay units, one of the addresses being a destination address, the other addresses including first and second relay addresses (*e.g.*, the address for two Z-Wave devices serving as repeaters and a destination Z-Wave device being controlled), and a control signal for an appliance being interfaced to a destination relay unit (*e.g.*, an appliance in the Motion Detector, Door/Window Sensor, Siren, Flood Sensor) having a serial number tied to the destination address (*e.g.*, the destination device's NodeID will be tied to a destination address used in routing). (*Supra* ¶¶19-20).

(http://zwavepublic.com/sites/default/files/command_class_specs_2017A/SDS13782-4%20Z-Wave%20Management%20Command%20Class%20Specification.pdf;

https://standards.ieee.org/getieee802/download/802.15.4-2011.pdf;

https://www.zwaveproducts.com/learn/ask-an-expert/glossary/mesh-network;

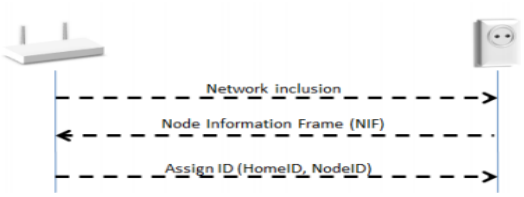
http://docslide.us/documents/Z-Wave-technical-basics-small.html;

http://www.zwaveproducts.com/learn/Z-Wave).

22. On information and belief, in at least internal testing and usage, Defendant performed the step of decoding the first relay address at a first relay unit having a corresponding serial number. For example, the Accused Instrumentality will decode a first relay address (*e.g.*, the address for a first Z-Wave device used as a repeater) having a corresponding serial number (*e.g.*, NodeID). (*Supra* ¶¶19-20).

Z-Wave enables a variety of monitoring and control applications. The basis for the applications is the networking services provided by the Z-Wave Protocol.

The Z-Wave Protocol can add and remove nodes in a network. This is known as inclusion and exclusion.



Example 1: Gateway adding a lamp to the network

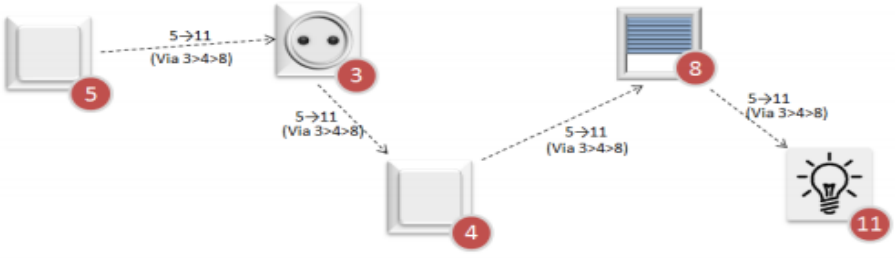
A Z-Wave node is identified by its NodeID. All nodes in the network share the same HomeID. The NodeID and HomeID are assigned during inclusion.
Inclusion is managed by a node known as the Primary Controller.

(http://zwavepublic.com/sites/default/files/APL13031-2%20-%20Z-Wave%20Networking%20Basics.pdf).

The Z-Wave Protocol handles transmissions to destinations all over the network. If necessary, other nodes are used as repeaters. This is called routing.

During bootstrapping, the Primary Controller asks the new node to discover its neighbors. Thanks to the neighbor nodes information, the Primary Controller builds a network map and knows the different possible routes to reach a node.

When using repeaters, the Sending node includes the route information in the frame. Each repeater parses the routing information and forwards the frame accordingly.



Example 4: Routing via repeaters

Routing may also be used during inclusion if a node is not within direct range of the Primary Controller.

(http://zwavepublic.com/sites/default/files/APL13031-2%20-%20Z-Wave%20Networking%20Basics.pdf).

23. On information and belief, in at least internal testing and usage, Defendant performed the step of transmitting the control signal, the second relay address, and the destination address from the first relay unit. For example, the Accused Instrumentality will transmit the control signal (*e.g.,* a signal to control a Z-Wave device), the second relay address (*e.g.,* the first Z-Wave device serving as a repeater will inform the next repeater of the next device the message should be forwarded to) and the destination address (*e.g.,* the first repeater will inform subsequent repeaters in the chain of the final destination device) from the first relay unit. (*Supra* ¶22).

24. On information and belief, in at least internal testing and usage, Defendant performed the step of feeding the control signal to the appliance from the destination relay unit. For example, the Accused Instrumentality feeds the control signal to the appliance from the destination relay unit (*e.g.,* Z-Wave hardware within a Z-Wave device will feed the control signal to the hardware within the device that actually performs its core function, such as the connected appliance). (*Supra* ¶22).

III. COUNT II
(PATENT INFRINGEMENT OF UNITED STATES PATENT NO. 6,873,245)

25. Plaintiff incorporates the above paragraphs herein by reference.

26. On March 29, 2005, United States Patent No. 6,873,245 ("the '245 Patent") was duly and legally issued by the United States Patent and Trademark Office. The application leading to the '245 patent was filed on August 14, 2001, and is a continuation-in-part of the application leading to the '166 Patent. (Ex. B at cover). The '245 Patent is titled "RF Remote Appliance Control/Monitoring System." A true and correct copy of the '245 Patent is attached hereto as Exhibit B and incorporated herein by reference.

27. Plaintiff is the assignee of all right, title and interest in the '245 patent, including all rights to enforce and prosecute actions for infringement and to collect damages for all relevant times against infringers of the '245 Patent. Accordingly, Plaintiff possesses the exclusive right and standing to prosecute the present action for infringement of the '245 Patent by Defendant.

28. Because the '245 patent is a continuation in part of the application leading to the '166 patent, the '245 patent has a substantially overlapping specification and the background regarding the '166 patent is equally applicable and is incorporated by reference with respect to the '245 patent. (*Supra* ¶¶11-17).

29. **Direct Infringement.** Upon information and belief, Defendant has been directly infringing at least claim 1 of the '245 patent in New Jersey, and elsewhere in the United States, by performing actions comprising making, using, selling, and/or offering for sale an appliance controller for a distributed appliance systems having a multiplicity of appliances, and a plurality of relay units, that satisfies the limitations of at least claim 1, including without limitation the Wer@ Home Hub, Z-Wave Extender, Motion Detector, Door/Window Sensor, Siren, Flood Sensor ("Accused Instrumentality").

30. Each Accused Instrumentality provides an appliance controller (*e.g.*, Z-Wave Appliance Switch) for a distributed appliance system (*e.g.*, Z-Wave network) having a multiplicity of appliances (*e.g.*, appliances such as sensors, etc.), and a plurality of relay units (*e.g.*, repeaters), one of the relay units being the appliance controller (*e.g.*, a Wer@ Home Hub). (*Supra* ¶20; http://zwavepublic.com/sites/default/files/command_class_specs_2017A/SDS13782-4%20Z-Wave%20Management%20Command%20Class%20Specification.pdf;

http://zwavepublic.com/sites/default/files/APL13031-2%20-%20Z-Wave%20Networking%20Basics.pdf)

31. Each Accused Instrumentality has a low power satellite radio transceiver (*e.g.*, radio frequency transceivers within the various Z-Wave devices) having a range being less than a distance to at least some of the appliances. (*Supra* ¶20).

32. Each Accused Instrumentality has an appliance interface for communicating with the at least one local appliance (*e.g.*, an interface which connects and makes possible the transmission of signal to the actual electrical appliance like a motion sensor or flood sensor). (*Supra* ¶20).

33. Each Accused Instrumentality has a microcomputer (*e.g.*, microcontroller) connected between the satellite radio transceiver (*e.g.*, Z-Wave transceiver) and the appliance interface and having first program instructions for controlling the satellite transceiver (*e.g.*, the microcontroller controls the transmission of signals from the transceiver to the other Z-Wave nodes in the network) and second program instructions for directing communication between the satellite transceiver and the appliance interface (*e.g.*, the microcontroller within the Z-Wave device enables the command received from the appliance interface to be communicated to the local appliance by the Z-Wave transceiver so that the intended action can be executed such as monitor sensors). (*Supra* ¶¶20, 22; https://Z-Wavealliance.org/Z-Wave-oems-developers/; http://zwavepublic.com/sites/default/files/command_class_specs_2017A/SDS13782-4%20Z-Wave%20Management%20Command%20Class%20Specification.pdf; http://www.rfwireless-world.com/Tutorials/Z-Wave-physical-layer.html).

34. Each Accused Instrumentality has a first program instructions including detecting communications directed by another of the relay units (*e.g.*, another Z-Wave node acting as a

repeater) relative to the same appliance controller (*e.g.*, targeted Z-Wave node), signaling receipt of the directed communications (sending acknowledgement signal through the Z-Wave transceiver), and directing communications to the other of the relay units relative to the same appliance controller (*e.g.*, sending status of an appliance or signal from a connected sensor). For example, a Z-Wave controller can send/receive messages to program various connected Z-Wave devices; the Z-Wave Appliance Switch communicate regarding the status of the appliance. (*Supra* ¶20; http://zwavepublic.com/sites/default/files/APL13031-2%20-%20Z-Wave%20Networking%20Basics.pdf; http://zwavepublic.com/sites/default/files/command_class_specs_2017A/SDS13784-4%20Z-Wave%20Network-Protocol%20Command%20Class%20Specification.pdf).

35. Each Accused Instrumentality has a second program instructions including detecting relay communications directed between the another of the relay units and a different relay unit, transmitting the relay communications, detecting a reply communication from the different relay unit, and transmitting the reply communication to the other of the relay units, wherein at least some of the relay units communicate with others of the relay units by relay communications using at least two others of the relay units (*e.g.*, a Z-Wave node detects messages from primary controller and checks whether message is intended for itself, if not, then acting as a repeater, transmits it to next intended device in the route. Also, the Z-Wave node detects messages from another Z-Wave node and forwards it to primary controller. N number of nodes may be involved in the process acting as repeaters or relay units). The Accused Instrumentality works on Z-Wave technology which uses mesh network and would communicate with the other relay units by relay communications using at least two others of the relay units (*e.g.*, repeaters). (*Supra* ¶¶20, 22; http://zwavepublic.com/sites/default/files/APL13031-2%20-

%20Z-Wave%20Networking%20Basics.pdf;

http://zwavepublic.com/sites/default/files/command_class_specs_2017A/SDS13784-4%20Z-Wave%20Network-Protocol%20Command%20Class%20Specification.pdf;

https://www.zwaveproducts.com/learn/ask-an-expert/glossary/mesh-network;

http://docslide.us/documents/Z-Wave-technical-basics-small.html;

http://www.zwaveproducts.com/learn/Z-Wave).

36. Plaintiff has been damaged because of Defendant's infringing conduct. Defendant is thus liable to Plaintiff for damages in an amount that adequately compensates Plaintiff for such Defendant's infringement of the '166 Patent and the '245 Patent, *i.e.*, in an amount that by law cannot be less than would constitute a reasonable royalty for the use of the patented technology, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

37. On information and belief, Defendant had at least constructive notice of the '166 Patent and the '245 Patent by operation of law, and there are no marking requirements that have not been complied with.

IV. JURY DEMAND

Plaintiff, under Rule 38 of the Federal Rules of Civil Procedure, requests a trial by jury of any issues so triable by right.

V. PRAYER FOR RELIEF

WHEREFORE, Plaintiff respectfully requests that the Court find in its favor and against Defendant, and that the Court grant Plaintiff the following relief:

a. Judgment that one or more claims of United States Patent No. 6,275,166 have been infringed, either literally and/or under the doctrine of equivalents, by Defendant;

b. Judgment that one or more claims of United States Patent No. 6,873,245 have been infringed, either literally and/or under the doctrine of equivalents, by Defendant;

c. Judgment that Defendant account for and pay to Plaintiff all damages to and costs incurred by Plaintiff because of Defendant's infringing activities and other conduct complained of herein, and an accounting of all infringements and damages not presented at trial;

d. That Plaintiff be granted pre-judgment and post-judgment interest on the damages caused by Defendant's infringing activities and other conduct complained of herein;

e. That Plaintiff be granted such other and further relief as the Court may deem just and proper under the circumstances.

August 28, 2020

Respectfully Submitted,

/s/ Jean-Marc Zimmerman

Jean-Marc Zimmerman (# 037451989)
Zimmerman Law Group
233 Watchung Fork
Westfield, NJ 07090
T: (908) 768-6408
F: (908) 935-0751
jmz@zimllp.com

Attorneys for Plaintiff
Karamelion LLC

OF COUNSEL:

David R. Bennett
Direction IP Law
P.O. Box 14184
Chicago, IL 60614-0184
(312) 291-1667
dbennett@directionip.com