EXHIBIT D

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(12) **United States Patent**
Arling

(10) **Patent No.: US 10,325,486 B2**
(45) **Date of Patent: *Jun. 18, 2019**

(54) **SYSTEM AND METHOD FOR OPTIMIZED APPLIANCE CONTROL**

(71) Applicant: **Universal Electronics Inc.**, Santa Ana, CA (US)

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(73) Assignee: **Universal Electronics Inc.**, Santa Ana, CA (US)

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

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **15/789,547**

(22) Filed: **Oct. 20, 2017**

(65) **Prior Publication Data**

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Related U.S. Application Data

(63) Continuation of application No. 15/259,847, filed on Sep. 8, 2016, now Pat. No. 9,842,492, which is a (Continued)

(51) **Int. Cl.**
G08C 17/02 (2006.01)
H04N 21/422 (2011.01)
(Continued)

(52) **U.S. Cl.**
CPC ***G08C 17/02*** (2013.01); ***G08C 23/04*** (2013.01); ***H04N 21/42226*** (2013.01);
(Continued)

(58) **Field of Classification Search**
CPC G08C 17/02; G08C 23/04; G08C 2201/92; G08C 2201/70; G08C 2201/30;
(Continued)

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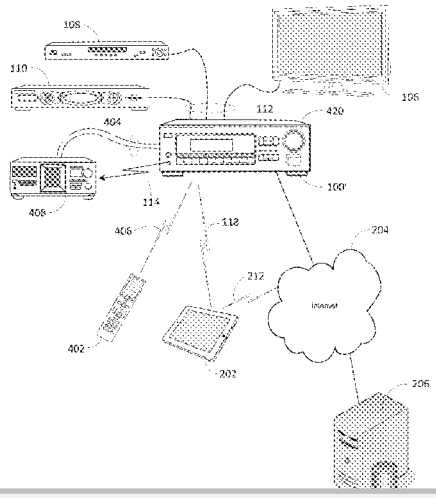
(Continued)

Primary Examiner — Adnan Aziz
(74) *Attorney, Agent, or Firm* — Greenberg Traurig, LLP

(57) **ABSTRACT**

In response to a detected presence of an intended target appliance within a logical topography of controllable appliances identity information associated with the intended target appliance is used to automatically add to a graphical user interface of a controlling device an icon representative of the intended target appliance and to create at a Universal Control Engine a listing of communication methods for use in controlling corresponding functional operations of the intended target appliance. When the icon is later activated, the controlling device is placed into an operating state appropriate for controlling functional operations of the intended target appliance while the Universal Control Engine uses at least one of the communication methods to transmit at least one command to place the intended target appliance into a predetermined operating state.

9 Claims, 14 Drawing Sheets



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Related U.S. Application Data

continuation of application No. 14/136,023, filed on Dec. 20, 2013, now Pat. No. 9,449,500, which is a continuation-in-part of application No. 13/899,671, filed on May 22, 2013, now Pat. No. 9,437,105, which is a continuation of application No. 13/657,176, filed on Oct. 22, 2012, now Pat. No. 9,215,394.

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(51) **Int. Cl.**
G08C 23/04 (2006.01)
H04N 21/4363 (2011.01)

(52) **U.S. Cl.**
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(58) **Field of Classification Search**
CPC G08C 2201/93; G08C 2201/40; G08C 2201/20; H04N 21/42226; H04N 21/4363; H04N 21/42225
See application file for complete search history.

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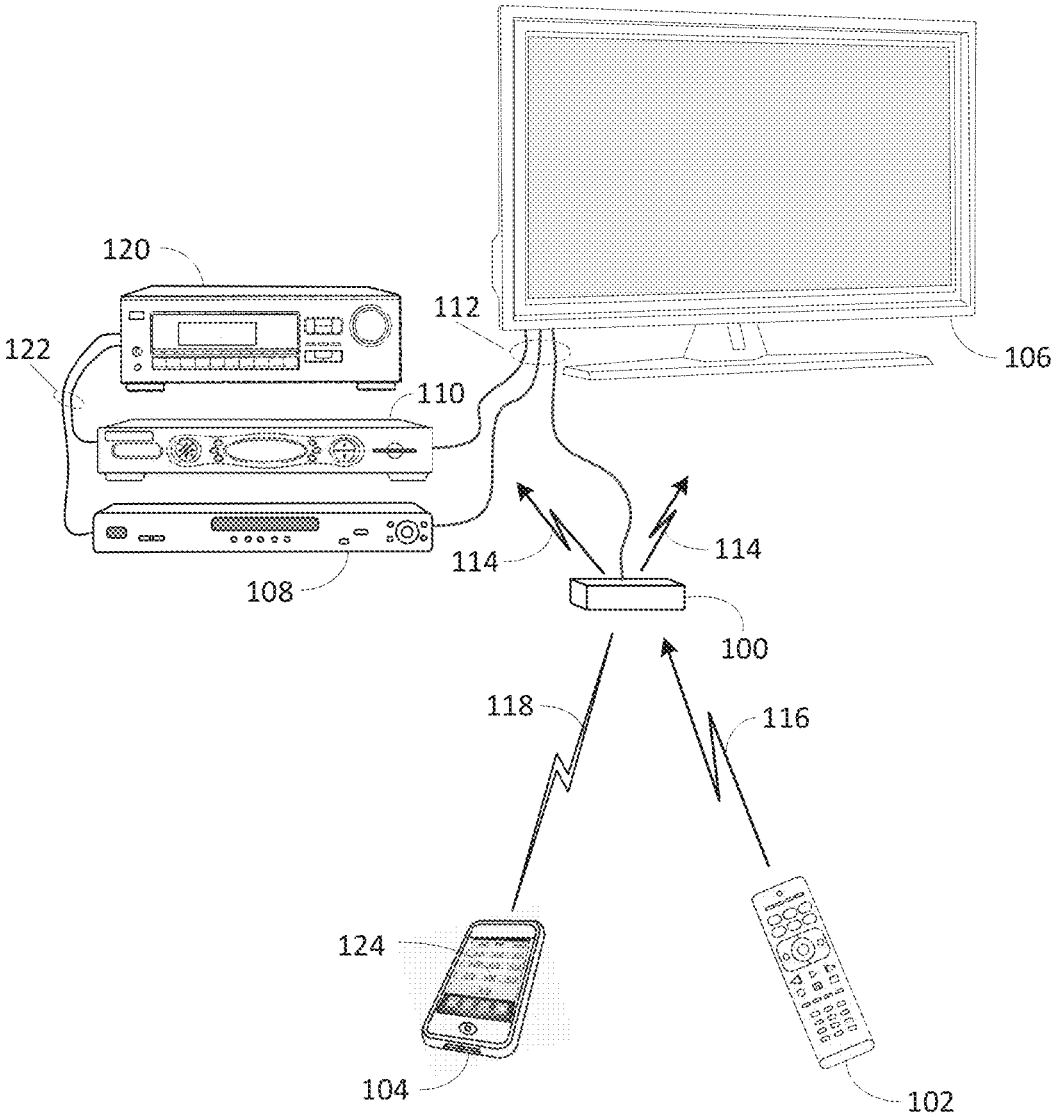

Figure 1

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