

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

ROKU, INC.,  
Petitioner,

v.

UNIVERSAL ELECTRONICS, INC.,  
Patent Owner.

---

IPR2019-01612  
Patent 7,589,642 B1

---

Before PATRICK M. BOUCHER, MINN CHUNG, and  
SHARON FENICK, *Administrative Patent Judges*.

BOUCHER, *Administrative Patent Judge*.

JUDGMENT  
Final Written Decision  
Determining All Challenged Claims Unpatentable  
*35 U.S.C. § 318(a)*

In response to a Petition (Paper 2, “Pet.”) filed by Roku, Inc. (“Petitioner”), we instituted an *inter partes* review of claims 1–4, 6, 8, 9, and 22–25 of U.S. Patent No. 7,589,642 B1 (Ex. 1001, “the ’642 patent”). Paper 7 (“Dec.”). During the trial, Universal Electronics, Inc. (“Patent Owner”) filed a Response (Paper 16, “PO Resp.”), to which Petitioner filed a Reply (Paper 20, “Reply”) and Patent Owner filed a Sur-reply (Paper 23, “Sur-reply”). An oral hearing was held with the parties, and a copy of the transcript was entered into the record. Paper 31 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6. This Decision is a Final Written Decision under 35 U.S.C. § 318(a) as to the patentability of the claims on which we instituted trial. Based on the record before us, Petitioner has shown, by a preponderance of the evidence, that claims 1–4, 6, 8, 9, and 22–25 are unpatentable.

## I. BACKGROUND

### A. *The ’642 Patent*

#### 1. *Overview*

The ’642 patent “relates generally to remote control devices and, more specifically, to relaying key code signals through a remote control device to operate an electronic consumer device.” Ex. 1001, 1:6–9. Each of such key code signals “corresponds to a function of the selected electronic device, such as power on, power off, volume up, volume down, play, stop, select, channel up, channel down, etc.” *Id.* at 1:25–28. A set of key codes associated with a particular electronic device is referred to as a “codeset.” *Id.* at 1:23–25. The number of key code signals to be used by a remote control device may be large, particularly when a single remote control

device is used to control multiple electronic devices. *Id.* at 1:39–47.

Accordingly, the inventor of the '642 patent sought a system “for enabling a remote control device to control a selected one of multiple different electronic consumer devices without requiring the codeset associated with the selected electronic consumer device to be stored on the remote control device.” *Id.* at 1:51–55.

Figure 1 of the '642 patent is reproduced below.

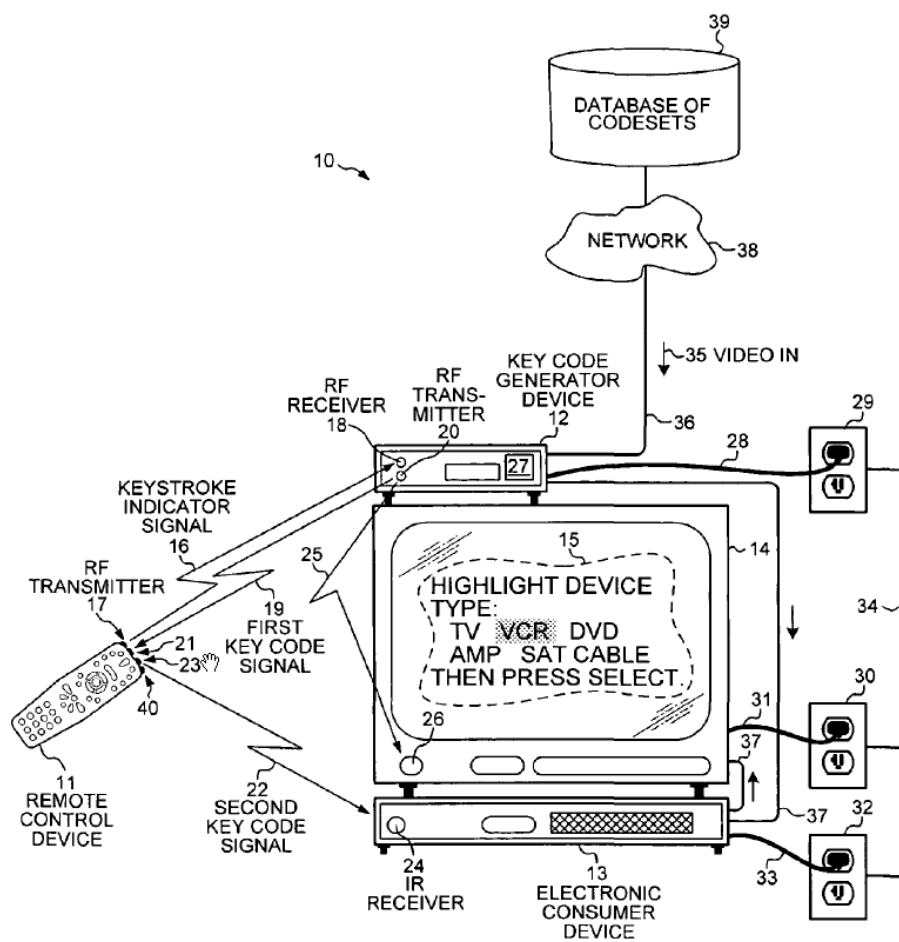


FIG. 1

Figure 1 illustrates a system for relaying a key code through a remote control device to an electronic consumer device. *Id.* at 3:1–3. System 10 includes remote control device 11, key code generator device 12 (shown as a set-top

box), first electronic consumer device 13 (shown as a video cassette recorder (“VCR”)), and second electronic consumer device 14 (shown as a television set). *Id.* at 3:5–8; 3:18–21, 3:27–28. With remote control device 11, a user responds to on-screen displays 15 of television set 14, generated by key code generator device 12, “to step through a sequence of menu screens to identify the codeset corresponding to the device that is to be controlled.” *Id.* at 3:12–16, 3:27–33. For example, system 10 may, in this way, identify the appropriate codeset to enable remote control device 11 to communicate with VCR 13 and television set 14. *Id.* at 3:27–35.

An alternative embodiment uses an “autoscan functionality” in which the user is “prompted by successive screens on display 15 to push the power-on key of remote control device 11 multiple times.” *Id.* at 7:60–66. As the user repeatedly presses the power-on key, “key code generator device 12 in turn generates key codes using different codesets until the electronic consumer device performs a desired function,” such as turning on. *Id.* at 8:6–10. The user is prompted to stop pressing the power-on key once the user sees the desired function being performed by first electronic consumer device 13. *Id.* at 8:10–13. “When the user stops pressing the power-on key, then the key code generator device 12 identifies the codeset of the last transmitted key code to be the codeset used by the electronic consumer device.” *Id.* at 8:15–18.

The ’642 patent explains that, in some instances, key code generator device 12 is capable of communicating with remotely maintained database of codesets 39 over network 38, which may be the Internet. *Id.* at 8:32–35. A new codeset, such as may be associated with a new electronic consumer device introduced into the market, may thus be distributed from database 39

via network 38 and stored on a mass-storage hard disk within key code generator device 12. *Id.* at 8:35–43.

After generating a key code, key code generator device 12 modulates the key code onto a carrier signal, such as an RF signal, to generate “first key code signal 19.” *Id.* at 4:35–37. Figure 5 of the ’642 patent is reproduced below.

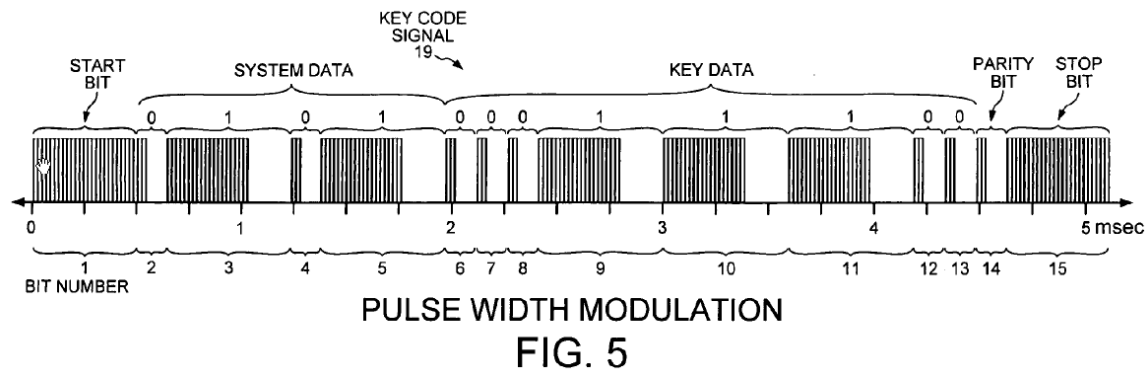


Figure 5 illustrates a twelve-bit key code modulated onto first key code signal 19 using pulse-width modulation. *Id.* at 4:66–67. Remote control device 11 receives first key code signal 19 on an RF transmission from key code generator device 12, and relays the key code to the appropriate electronic consumer device, such as VCR 13, in the form of second key code signal 22. *Id.* at 5:37–44. The electronic consumer device receives second key code signal 22, recovers the key code, and, if the key code is correct for the device, performs the function desired by the user. *Id.* at 5:64–6:1, 8:6–18.

## 2. Illustrative Claims

Independent claim 1 is illustrative of the challenged claims and is reproduced below.

# Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

## Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

## Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

## Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

## API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

## LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

## FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

## E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.