

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ROKU, INC.,
Petitioner,

v.

UNIVERSAL ELECTRONICS, INC.,
Patent Owner.

Case IPR No. IPR2019-01614
U.S. Patent 9,911,325

DECLARATION OF DR. SAMUEL H. RUSS

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.	Introduction.....	1
II.	Qualifications.....	1
III.	Materials considered.....	4
IV.	Relevant legal standards	5
	A. Level of ordinary skill	6
	B. Claim construction	7
	1. “Key code”	8
	2. “Keystroke indicator signal”	8
	3. “Key code signal”	9
	C. Obviousness.....	9
V.	Overview of the ’325 patent	10
	A. Embodiment 1 – Transmitting a Key Code from a Key Code Generator to a Remote Control Device.....	12
	B. Embodiment 2 – Transmitting a Key Code from a Key Code Generator to an Electronic Consumer Device.....	15
VI.	Background of the Technology	16
	A. Infrared Remote Controls and Controlling Electronic Consumer Devices Were Well-Known	17
	B. Controlling Electronic Devices Using Key Codes Was Well- Known	25
	C. Transmitting Key Codes From Electronic Devices Other Than Remote Controls Was Well-Known.....	29
	D. Transmitting Key Codes Via Modulating Key Codes Onto Carrier Signals Was Well-Known.....	39
	E. “Blasters” Were Well-known Devices Used to Transmit Key Codes According to Modulation Parameters	44
	F. Using a Remote Control as a Relay Device was Well-known.....	49
VII.	GROUND 1: Claims 1, 2, 3, 5, and 7 of the ’325 Patent are Unpatentable under 35 U.S.C. § 103 OVER Rye In view of Skerlos	51

Declaration of Dr. Samuel H. Russ
U.S. Pat. No. 9,911,325

A.	Overview of Rye	52
B.	Rye in view of Skerlos discloses Embodiment 2.....	54
C.	Independent Claim 1	58
1.	[1.P]: “A first device for transmitting a command to control a functional operation of a second device, the first device comprising:”	58
2.	[1.1]: “a receiver;”	60
3.	[1.2] “a transmitter;”	61
4.	[1.3] “a processing device coupled to the receiver and the transmitter; and”	62
5.	[1.4] “a memory storing instructions executable by the processing device, the instructions causing the processing device to:”	64
6.	[1.4.1] “generate a key code using a keystroke indicator received from a third device in communication with first device via use of the receiver, the keystroke indicator having data that indicates an input element of the third device that has been activated;”	68
7.	[1.4.2] “format the key code for transmission to the second device; and”	72
8.	[1.4.3] “transmit the formatted key code to the second device in a key code signal via use of the transmitter;”	78
9.	[1.4.4] “wherein the generated key code comprises a one of a plurality of key code data stored in a codeset, wherein the one of the plurality of key code data is selected from the codeset as a function of the keystroke indicator received from the third device, wherein each of the plurality of key code data stored in the codeset comprises a series of digital ones and/or digital zeros, and”	79
10.	[1.4.5] “wherein the codeset further comprises time information that describes how a digital one and/or a digital zero within the selected one of the plurality of key code data is to be represented in the key code signal to be transmitted to the second device.”	82
D.	Claim 2: “The first device as recited in claim 1, wherein the receiver comprises an RF receiver.”	86
E.	Claim 3: “The first device as recited in claim 1, wherein the transmitter comprises an IR transmitter.”	86
F.	Claim 5: “The first device as recited in claim 1 , wherein the formatted key code is transmitted from the first device to the	

second device via a wireless connection between the first device and the second device.”	87
G. Claim 7: “The first device as recited in claim 1, wherein the generated key code controls at least one of a power on, power off, volume up, and volume down functional operation of the second device.”	88
VIII. Ground 2: Claims 1, 2, 3, 4, and 5 of the ’325 Patent are Unpatentable under 35 U.S.C. § 103 over Caris In View of DubiL.	89
A. Overview of Caris	89
B. Caris in view of Dubil discloses Embodiment 2.....	91
C. Independent Claim 1	94
1. [1.P] “A first device for transmitting a command to control a functional operation of a second device, the first device comprising:”	94
2. [1.1] “a receiver;”	95
3. [1.2] “a transmitter;”	95
4. [1.3] “a processing device coupled to the receiver and the transmitter; and”	96
5. [1.4] “a memory storing instructions executable by the processing device, the instructions causing the processing device to:”	98
6. [1.4.1] “generate a key code using a keystroke indicator received from a third device in communication with first device via use of the receiver, the keystroke indicator having data that indicates an input element of the third device that has been activated;”	101
7. [1.4.2] “format the key code for transmission to the second device; and”	103
8. [1.4.3] “transmit the formatted key code to the second device in a key code signal via use of the transmitter;”	106
9. [1.4.4] “wherein the generated key code comprises a one of a plurality of key code data stored in a codeset, wherein the one of the plurality of key code data is selected from the codeset as a function of the keystroke indicator received from the third device, wherein each of the plurality of key code data stored in the codeset comprises a series of digital ones and/or digital zeros, and”	107
10. [1.4.5] “wherein the codeset further comprises time information that describes how a digital one and/or a digital zero within the selected one of	

Declaration of Dr. Samuel H. Russ
U.S. Pat. No. 9,911,325

the plurality of key code data is to be represented in the key code signal to be transmitted to the second device.” 110

D. Claim 2: “The first device as recited in claim 1, wherein the receiver comprises an RF receiver.”114

E. Claim 3: “The first device as recited in claim 1, wherein the transmitter comprises an IR transmitter.”114

F. Claim 4: “The first device as recited in claim 1, wherein the formatted key code is transmitted from the first device to the second device via a wired connection between the first device and the second device.”115

G. Claim 5: “The first device as recited in claim 1, wherein the formatted key code is transmitted from the first device to the second device via a wireless connection between the first device and the second device.”115

IX. Other evidence relevant to obviousness116

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.