

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ROKU, INC.,
Petitioner,

v.

UNIVERSAL ELECTRONICS, INC.,
Patent Owner.

Case No. IPR2019-01613
U.S. Patent 8,004,389

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

Roku EX1003

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”	9
	3. “Key code signal”.....	9
	4. “Key code generator device”	10
	5. “Means for receiving a key code from said RF receiver and for sending said key code to said IR transmitter such that said key code is modulated onto an IR carrier signal...”	11
	C. Obviousness.....	12
V.	Overview of the ’389 patent	12
	A. Embodiment 1 – Transmitting a Key Code from a Key Code Generator to a Remote Control Device.....	14
VI.	Background of the Technology	17
	A. Infrared Remote Controls and Controlling Electronic Consumer Devices Were Well-Known	18
	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.....	30
	D. Transmitting Key Codes Via Modulating Key Codes Onto Carrier Signals Was Well-Known.....	40
	E. “Blasters” Were Well-known Devices Used to Transmit Key Codes According to Modulation Parameters	46
	F. Using a Remote Control as a Relay Device was Well-known.....	50

VII.	GROUND 1: Claims 2 and 3 of the '389 Patent are Unpatentable under 35 U.S.C. § 103 Over Mishra In view of Dubil and Van Ee.....	52
A.	Overview of Mishra.....	53
B.	Overview of Dubil.....	55
C.	Overview of Van Ee.....	59
D.	Independent Claim 2	62
1.	[2.P]: “A method comprising:”	62
2.	[2.1]: “receiving a keystroke indicator signal from a remote control device, wherein the keystroke indicator signal indicates a key on said remote control device that a user has selected;”	63
3.	[2.2]: “generating a key code within a key code generator device using the keystroke indicator signal, wherein said key code is part of a codeset that controls an electronic consumer device;”	63
4.	[2.3]: “modulating said key code onto a carrier signal, thereby generating a key code signal; and”	65
5.	[2.4]: “transmitting said key code signal from said key code generator device; and”	67
6.	[2.5]: “identifying said codeset using input from a user of said remote control device, wherein said codeset is identified when said user stops pressing a key on said remote control device.”	68
E.	Claim 3: “The method of claim 2, wherein said user is prompted by autoscan functionality to press said key on said remote control device.”	73
VIII.	GROUND 2: Claims 4 and 7-15 of the '389 Patent are Unpatentable under 35 U.S.C. § 103 Over Mishra In view of Dubil	75
A.	Claim 4	75
1.	[4.P]: “A remote control device comprising:”	75
2.	[4.1]: “a receiver that receives a first key code signal, wherein said first key code signal is generated by modulating a key code onto a first carrier signal, said first carrier signal falling within a radio frequency band;”	76
3.	[4.2]: “a transmitter that transmits a second key code signal, wherein said second key code signal is generated by modulating said key code onto a second carrier signal, said second carrier signal falling within an infrared frequency band; and”	78

Declaration of Dr. Samuel H. Russ
U.S. Patent No. 8,004,389

4.	[4.3]: “a keypad that includes a key that corresponds to said key code, wherein said key code corresponds to a function of an electronic consumer device, and wherein said remote control device is contained within a single structure.”	80
B.	Claim 7: “The remote control device of claim 4, wherein said key code is part of a codeset, and wherein said codeset is not stored on said remote control device.”	82
C.	Claim 8: “The remote control device of claim 4, wherein said modulating to generate said first key code signal is performed according to a first codeset, and wherein said remote control device stores no codeset other than said first codeset.”	83
D.	Claim 9: “The remote control device of claim 4, wherein said key code is part of a codeset that includes a plurality of key codes, wherein each one of said plurality of key codes corresponds to a different function of the electronic consumer device, and wherein no more than a single one of said plurality of key codes is present on said remote control device at any given time.”	85
E.	Claim 10: “The remote control device of claim 4, further comprising: a microcontroller that determines that a user of said remote control device has selected said key and that modulates said key code onto said second carrier signal.”	87
F.	Claim 11: “The remote control device of claim 4, wherein said modulating said key code onto said first carrier signal is performed by an electronic consumer device taken from the group consisting of: a television, a stereo radio, a digital video disk player, a video cassette recorder, a personal computer, a set-top cable television box and a set-top satellite box.”	88
G.	Claim 12	89
1.	[12.P]: “A remote control device, comprising:”	89
2.	[12.1]: “a keypad;”	90
3.	[12.2]: “an RF receiver;”	90
4.	[12.3]: “an IR transmitter; and”	90
5.	[12.4]: “means for receiving a key code from said RF receiver and for sending said key code to said IR transmitter such that said key code is	

modulated onto an IR carrier signal, said IR carrier signal with said key code modulated thereon being transmitted from said remote control device by said IR transmitter, wherein said remote control device is contained within a single structure.” 91

H. Claim 13: “The remote control device of claim 12, wherein said key code is not stored on said remote control device immediately prior to said means receiving the key code.”92

I. Claim 14: “The remote control device of claim 12, wherein said key code is part of a codeset, and wherein said codeset is not stored on said remote control device.”93

J. Claim 15: “The remote control device of claim 12, wherein said means is a microcontroller.”93

IX. GROUND 3: Claim 5 of the ’389 Patent Is Unpatentable under 35 U.S.C. § 103 Over Mishra In view of Dubil And Lambrechts.....93

A. Overview of Lambrechts93

B. Claim 5: “The remote control device of claim 4, wherein said remote control device is taken from the group consisting of: a learning remote control device, a cell phone, an RF-enabled personal digital assistant (PDA), an RF-enabled wrist watch, and an RF-enabled keyboard.”95

X. GROUND 4: Claims 2 and 3 of the ’389 Patent are Unpatentable under 35 U.S.C. § 103 Over Caris In view of Skerlos And Van Ee96

A. Overview of Caris97

B. Overview of Skerlos.....99

C. Independent Claim 2103

1. [2.P]: “A method comprising:” 103

2. [2.1]: “receiving a keystroke indicator signal from a remote control device, wherein the keystroke indicator signal indicates a key on said remote control device that a user has selected;” 104

3. [2.2]: “generating a key code within a key code generator device using the keystroke indicator signal, wherein said key code is part of a codeset that controls an electronic consumer device;” 105

4. [2.3]: “modulating said key code onto a carrier signal, thereby generating a key code signal;” 107

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.