

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. IPR2019-01612
U.S. Patent 7,589,642

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
	4. “Key code generator device”	9
	C. Obviousness.....	11
V.	Overview of the ’642 patent	11
	A. Embodiment 1 – Transmitting a Key Code from a Key Code Generator to a Remote Control Device.....	13
	B. Embodiment 2 – Transmitting a Key Code from a Key Code Generator to an Electronic Consumer Device.....	16
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.....	29
	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	45
	F. Using a Remote Control as a Relay Device was Well-known.....	50

VII.	GROUND 1: Claims 1, 3, 4, 6, 8, and 9 of the '642 Patent are Unpatentable under 35 U.S.C. § 103 OVER Mishra In view of Dubil	52
A.	Overview of Mishra.....	53
B.	Mishra in view of Dubil discloses Embodiment 1	56
C.	Independent Claim 1	60
1.	[1.P] “A method comprising:”	60
2.	[1.1] “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;”	62
3.	[1.2] “generating a key code within a key code generator device using the keystroke indicator signal;”	63
4.	[1.3] “modulating said key code onto a carrier signal, thereby generating a key code signal; and”	66
5.	[1.4] “transmitting said key code signal from said key code generator device to said remote control device.”	68
D.	Claim 3	71
1.	“The method of claim 1, wherein said key code consists of a binary number.”	71
E.	Claim 4	72
1.	“The method of claim 1, wherein said key code comprises a binary number and timing information, and wherein said timing information defines how said binary number is modulated in (c) onto said carrier signal.”	72
F.	Claim 6	76
1.	[6.P] “The method of claim 1, wherein said carrier signal is in a radio frequency band, wherein said key code signal is received by said remote control device, and wherein said method further comprises:”	76
2.	[6.1] “modulating said key code onto a second carrier signal, thereby generating a second key code signal, said modulating being performed on said remote control device wherein said second carrier signal is in an infrared frequency band; and”	77
3.	[6.2] “transmitting said second key code signal from said remote control device to an electronic consumer device.”	80
G.	Claim 8	82

1.	“The method of claim 1, wherein said key code generated in (b) is part of a codeset, and wherein said remote control device does not store said codeset.”	82
H.	Claim 9	83
1.	“The method of claim 8, wherein said codeset comprises timing information and a plurality of key codes, and wherein said timing information describes a digital one and a digital zero.”	83
VIII.	GROUND 2: Claims 2, 22-25 of the '642 Patent are Unpatentable under 35 U.S.C. § 103 Over Rye In view of Dubil	83
A.	Overview of Rye	84
B.	Rye in view of Dubil discloses Embodiment 2	86
C.	Independent Claim 2	89
1.	[2.P] “A method comprising:”	89
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;”	90
3.	[2.2] “generating a key code within a key code generator device using the keystroke indicator signal;”	92
4.	[2.3] “modulating said key code onto a carrier signal, thereby generating a key code signal; and”	96
5.	[2.4] “transmitting said key code signal from said key code generator device to an electronic consumer device.”	98
D.	Claim 22	100
1.	“The method of claim 2, wherein said key code consists of a binary number.”	100
E.	Claim 23	100
1.	“The method of claim 2, wherein said key code comprises a binary number and timing information, and wherein said timing information defines how said binary number is modulated in (c) onto said carrier signal.”	100
F.	Claim 24	105
1.	“The method of claim 2, wherein said key code generated in (b) is part of a codeset, and wherein said remote control device does not store said codeset.”	105

G.	Claim 25	107
1.	“The method of claim 24, wherein said codeset comprises timing information and a plurality of key codes, and wherein said timing information describes a digital one and a digital zero.”	107
IX.	Ground 3: Claims 1, 2, 3, 4, 6, 8, 9, and 22-25 of the ’642 Patent are Unpatentable under 35 U.S.C. § 103 over Caris In View of Skerlos.....	112
A.	Caris in view of Skerlos discloses Embodiment 1	113
B.	Caris in view of Skerlos discloses Embodiment 2	119
C.	Independent claim 1	123
1.	[1.P] “A method comprising:”	123
2.	[1.1] “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;”	124
3.	[1.2] “generating a key code within a key code generator device using the keystroke indicator signal;”	125
4.	[1.3] “modulating said key code onto a carrier signal, thereby generating a key code signal; and”	126
5.	[1.4] “transmitting said key code signal from said key code generator device to said remote control device.”	129
D.	Claim 3	129
1.	“The method of claim 1, wherein said key code consists of a binary number.”.....	129
E.	Claim 4: “The method of claim 1, wherein said key code comprises a binary number and timing information, and wherein said timing information defines how said binary number is modulated in (c) onto said carrier signal.”	131
F.	Claim 6	133
1.	[6.P] “The method of claim 1, wherein said carrier signal is in a radio frequency band, wherein said key code signal is received by said remote control device, and wherein said method further comprises:”	133
2.	[6.1] “modulating said key code onto a second carrier signal, thereby generating a second key code signal, said modulating being performed on said remote control device wherein said second carrier signal is in an infrared frequency band; and”	134

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.