

**United States Court of Appeals
for the Federal Circuit**

ROKU, INC.,
Appellant

v.

UNIVERSAL ELECTRONICS, INC.,
Appellee

2022-1058

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2019-01615.

Decided: March 31, 2023

WILLIAM MILLIKEN, Sterne Kessler Goldstein & Fox, PLLC, Washington, DC, argued for appellant. Also represented by JON WRIGHT; JONATHAN DANIEL BAKER, Dickinson Wright PLLC, Mountain View, CA; MICHAEL DAVID SAUNDERS, Austin, TX.

MICHAEL ANTHONY NICODEMA, Greenberg Traurig LLP, West Palm Beach, FL, argued for appellee. Also represented by BENJAMIN GILFORD, JAMES J. LUKAS, JR., Chicago, IL.

Before NEWMAN, REYNA, and STOLL, *Circuit Judges*.

Opinion for the court filed by *Circuit Judge STOLL*.

Dissenting opinion filed by *Circuit Judge NEWMAN*.

STOLL, *Circuit Judge*.

Roku, Inc. appeals the Patent Trial and Appeal Board’s final written decision holding that claims 1, 3, 5, and 7 of U.S. Patent No. 9,716,853 had not been proven unpatentable as obvious. This case turns on a single question—whether a person of ordinary skill in the art would have understood the prior art’s disclosure of a listing of remote command codes formatted for transmission via two different communication methods to be a listing comprised of at least a first communication method and a second communication method different than the first communication method. Because the question presented involved the scope and content of the prior art, the Board resolved this dispute as a purely factual question, which we review for substantial evidence. The Board thoroughly considered the evidence of record and found in its final written decision that the skilled artisan would not have understood the prior patent’s listing of remote command codes to correspond to the claim limitation at issue. Because the Board’s finding in this close factual dispute is supported by substantial evidence, we affirm the Board’s final written decision.

BACKGROUND

The ’853 patent relates to universal remotes and, more specifically, to a universal control engine (UCE) that facilitates communication between a controlling device (i.e., a remote) and intended target appliances (e.g., a TV, a DVD player, a sound system, etc.). ’853 patent col. 1 l. 63–col. 2 l. 45. Although the specification of the ’853 patent acknowledges that universal remotes were known at the time of the invention, it states that the proliferation of new communication methods raises the potential for “confusion,

misoperation, or other problems,” *id.* at col. 1 ll. 40–59, particularly because the preferred communication method for transmitting commands “may vary by both appliance and by the function to be performed,” *id.* at col. 6 ll. 62–64. For example, a user can “power on and select inputs on a TV” using Consumer Electronic Control (CEC) commands while “control[ing] the volume on the same TV” using infrared (IR) commands. *Id.* at col. 2 ll. 21–45. The ’853 patent’s purported invention is the ability to reliably use different communication methods that enable a single remote control to provide commands to a variety of target appliances, according to the optimal method of communication for each target appliance and command. *Id.* at col. 2 ll. 16–20.

The ’853 patent’s UCE can “receive commands from a controlling device” and “apply the optimum methodology to propagate the command function(s) to each intended target appliance,” *id.* at col. 2 ll. 20–37, according to a “preferred command matrix,” *id.* at col. 7 ll. 19–29. The preferred command matrix, an example of which is shown below, can be, for example, a list or a table with entries that correspond to a specific command and “comprise identification of [(1)] a form of command/transmission to be used and [(2)] a pointer to the required data value and formatting information for the specific command.” *Id.* at col. 7 ll. 19–29.

Function	Appliance					
	TV	AVR	STB/DVR	DVD	CD	Etc....
Power on	CEC	CEC	CEC	CEC	IR	
Power off	CEC	CEC	CEC	CEC	IR	
Volume up	IR	CEC	n/a	n/a	n/a	
Volume down	IR	CEC	n/a	n/a	n/a	
Mute	IR	CEC	n/a	n/a	n/a	
Play	n/a	n/a	CEC	CEC	IR	
Pause	n/a	n/a	CEC	CEC	IR	
FF	n/a	n/a	CEC	CEC	IR	
Rew	n/a	n/a	CEC	CEC	IR	
Sound field A	CEC	IP	IP	n/a	n/a	
Sound field B	CEC	IP	IP	n/a	n/a	
Input 1	CEC	IR	n/a	n/a	n/a	
Input 2	CEC	IR	n/a	n/a	n/a	
Etc....						

Figure 7

'853 patent Fig. 7.

Representative claim 1 recites:

1. A universal control engine, comprising:

a processing device; and

a memory device having stored thereon instructions executable by the processing device, the instructions, when executed by the processing device, causing the universal control engine

to respond to a detected presence of an intended target appliance within a logical topography of controllable appliances which includes the universal control engine by

using an identity associated with the intended target appliance to create *a listing comprised of at least a first communication method and a second*

communication method different than the first communication method for use in controlling each of at least a first functional operation and a second functional operation of the intended target appliance and

to respond to a received request from a controlling device intended to cause the intended target appliance to perform a one of the first and second functional operations by

causing a one of the first and second communication methods in the listing of communication methods that has been associated with the requested one of the first and second functional operations to be used to transmit to the intended target appliance a command for controlling the requested one of the first and second functional operations of the intended target appliance.

Id. at col. 14 l. 41–col. 15 l. 7 (emphasis added to key limitation).

Roku filed a petition for *inter partes* review of claims 1, 3, 5, and 7 of the '853 patent, asserting that the challenged claims would have been obvious in view of U.S. Patent Pub. No. 2012/0249890 (“Chardon”) and other asserted prior art references. Disposition of the case before us rests, as it did before the Board, on a single, narrow issue: whether Chardon discloses “a listing comprised of at least a first communication method and a second communication method different than the first communication method” as recited in each challenged claim.

Like the patent-in-suit, Chardon describes a remote control system configured to control various target devices (e.g., TVs, DVD players, stereo equipment, etc.). Chardon uses target device identification data to generate a linked database (e.g., a linked list) including sets of command codes (i.e., instructions to perform a command) associated

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