UNITED STATES PATENT AND TRADEMARK OFFICE

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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Ex parte OLIVIER REPELLIN

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Appeal 2017-003898
Application 13/203,557
Technology Center 2100

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Before ROBERT E. NAPPI, TERRENCE W. McMILLIN, and
JASON M. REPKO, *Administrative Patent Judges*.

REPKO, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant[1] appeals under 35 U.S.C. § 134(a) from the Examiner's
rejection of claims 1–9. Br. 4.[2] We have jurisdiction under 35 U.S.C.
§ 6(b).

We reverse.

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[1] Appellant identifies the real party in interest as Sagemcom Broadband
SAS. Br. 2.
[2] Throughout this opinion, we refer to the Final Rejection ("Final Act.")
mailed January 30, 2015; the Advisory Action ("Adv. Act.") mailed July 31,
2015; the Appeal Brief ("Br.") filed February 1, 2016; and the Examiner's
Answer ("Ans.") mailed September 1, 2016.

THE INVENTION

Appellant's invention diagnoses or updates the software of an HDMI-equipped[3] device. Spec. 1. Typically, a digital-television decoder uses a serial port, USB port, Ethernet port, or jack-socket connector to update its software. *Id.* at 1–2. But fewer new decoders have these ports. *Id.* at 2. The invention uses an HDMI connector to exchange information with a third-party device for software updates. *Id.* at 4. Accordingly, the invention can perform the update without the need for communication ports that are less prevalent in newer devices. *See id.* at 2, 4.

Claim 1 is reproduced below with our emphasis:

1. A method of diagnosing and/or updating embedded software, associated with a processor of a first electronic device equipped with an HDMI type connector, the method comprising:
    linking, using a suitable cable, a third-party electronic device, configured to perform a diagnosing or updating operation, or both, of the embedded software, with a first pin and a second pin of the HDMI connector;
    carrying out an operation of switching the first electronic device, by toggling said first electronic device from a first mode corresponding to a usual operating mode of the first electronic device, to a second mode corresponding to a transmission mode of the first electronic device, in which the HDMI connector is configured, via the first pin and the second pin, to exchange information to and from the processor, *said switching operation comprising different operations comprising*
    toggling a first connection, linking in the usual operating mode a first processor port of the processor, dedicated to the receipt of data, to a serial port of the first electronic device or to an unused port of the first electronic device, such that said first connection links, in the transmission mode, said first port of the processor to said first pin of the HDMI connector;

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[3] HDMI stands for High Definition Multimedia Interface. Spec. 2.

toggling a second connection, linking in the usual operating mode a second processor port of the processor, dedicated to the transmission of data, to a serial port of the first electronic device or to an unused port of the first electronic device, such that said second connection links, in the transmission mode, said second port of the processor to said second pin of the HDMI connector, and

carrying out, via the suitable cable, exchanges of information between the first electronic device and the third-party electronic device, so as to carry out the operation of diagnosing and/or updating of the embedded software.

THE REJECTION

The Examiner relies on the following as evidence:

| Stone | US 2005/0120384 A1 | June 2, 2005 |
| Nakahama | US 8,190,786 B2 | May 29, 2012 |

Claims 1–9 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Stone and Nakahama. Final Act. 5–12.

THE REJECTION OVER STONE AND NAKAHAMA

The Examiner's Findings

The Examiner finds that Stone teaches every limitation recited in independent claim 1 except for switching the first electronic device by toggling connections from a usual operating mode to a transmission mode, as recited. Final Act. 5–8. In concluding that claim 1 would have been obvious, the Examiner cites Nakahama as teaching this feature. *Id.* at 6–8. In particular, the Examiner finds that Nakahama's two hot-plug states correspond to the recited first and second modes. *Id.* at 6.

Appellant's Contentions

Appellant argues that Nakahama does not teach the recited toggling. Br. 9–10. According to Appellant, Nakahama changes the hot-plug state from high to low, but this change in state does not involve the recited toggling. *Id.* at 10. Appellant contends that Nakahama's DDC[4] and CEC[5] lines always remain connected to the same HDMI port, and the receiver (sink) always remains connected to the transmitter. *Id.* at 9–10.

Issue

Under § 103, has the Examiner erred in rejecting independent claim 1 by finding that Stone and Nakahama would have taught or suggested carrying out an operation of switching the first electronic device by the recited toggling?

Appellant's arguments raise others issues, but we find this issue dispositive.

Analysis

The switching limitation comprises, in part, "toggling a first connection . . . such that said first connection links, in the transmission mode, said first port of the processor to said first pin of the HDMI connector." The claim further recites toggling a second connection in a similar way by connecting the processor's second port to a second pin.

According to the Specification, toggling involves repositioning switches. Spec. 12. For example, switching device 304 positions the switches based on the mode. *Id.* at 11. Figure 3, reproduced below, shows switching device 304.

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[4] DDC stands for Display Data Channel. Nakahama 2:1–2.
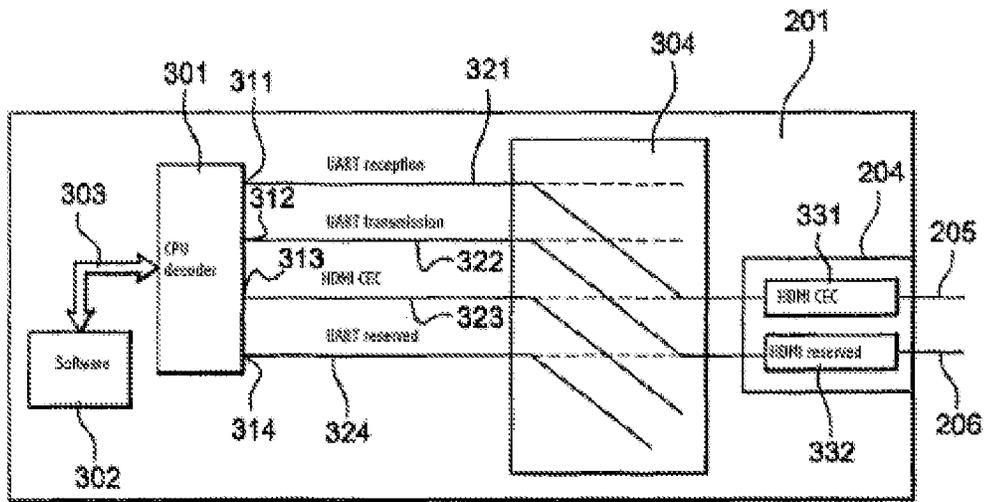[5] CEC stands for Consumer Electronics Control. Nakahama 4:7.

Fig. 3

Figure 3, above, shows the transition from a first position (represented by dashed lines) for the usual mode to a second position (represented by solid lines) for the transmission mode. *Id.* For instance, in transmission mode, switching device 304 disconnects ports 313 and 314 from CEC pin 331 and reserved pin 332, respectively. *Id.*

The Examiner acknowledges that the disclosed system works like a "hardware switch, where certain pins and leads are disconnected while another set of pins and leads are connected in a first mode, while in another mode those pins and leads that were disconnected in the first mode are now connected." Adv. Act. 2. But, in the Examiner's view, the claims are much broader. *See id.* According to the Examiner, "the claims as currently worded merely disclose that certain connections are 'toggled,' which does not differentiate the claimed system from" the multi-pin connectors in the cited prior art. *Id.* For example, under the Examiner's interpretation, claim 1 encompasses a system that selects certain pins and leads to send a particular signal—i.e., certain pins are used for one set of signals and other pins for another set of signals. *Id.* We disagree. *Accord* Br. 9–10.

Here, the Specification consistently and repeatedly uses the terms "toggling" and "switching" to refer to repositioning switches. *See* Spec. 11–12, *discussed supra*; *see also* Spec 4–5. Claim 1 reflects this feature by reciting various configurations of ports, connections, and pins. For example, claim 1 expressly recites how the connection links the ports to the pins. Moreover, the recited switching operation requires configuring the HDMI connectors via the first pin and the second pin. When read in the context of the entire recited switching operation and in view of the Specification, we disagree with the Examiner that "toggling" could be read to cover selecting a pin for communicating a signal, in this case. *See, e.g.*, Final Act. 5–8; Adv. Act. 2; Ans. 18–19.

Given this understanding of claim 1, we agree with Appellant that the Examiner has not shown how Nakahama teaches the recited toggling. Br. 9–10.

In particular, Nakahama uses an HDMI standard. Nakahama 5:65–67. HDMI includes a bidirectional bus referred to as DDC, TMDS[6] for transmitting digital-video data, and a CEC for two-way communication between the transmitter (source) and receiver (sink). *Id.* at 6:4–7, 33-35, 42–45. This configuration is shown in Figure 1, which is reproduced below.

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[6] TDMS stands for Transition Minimized Differential Signaling. Nakahama 1:36–37.

FIG.1
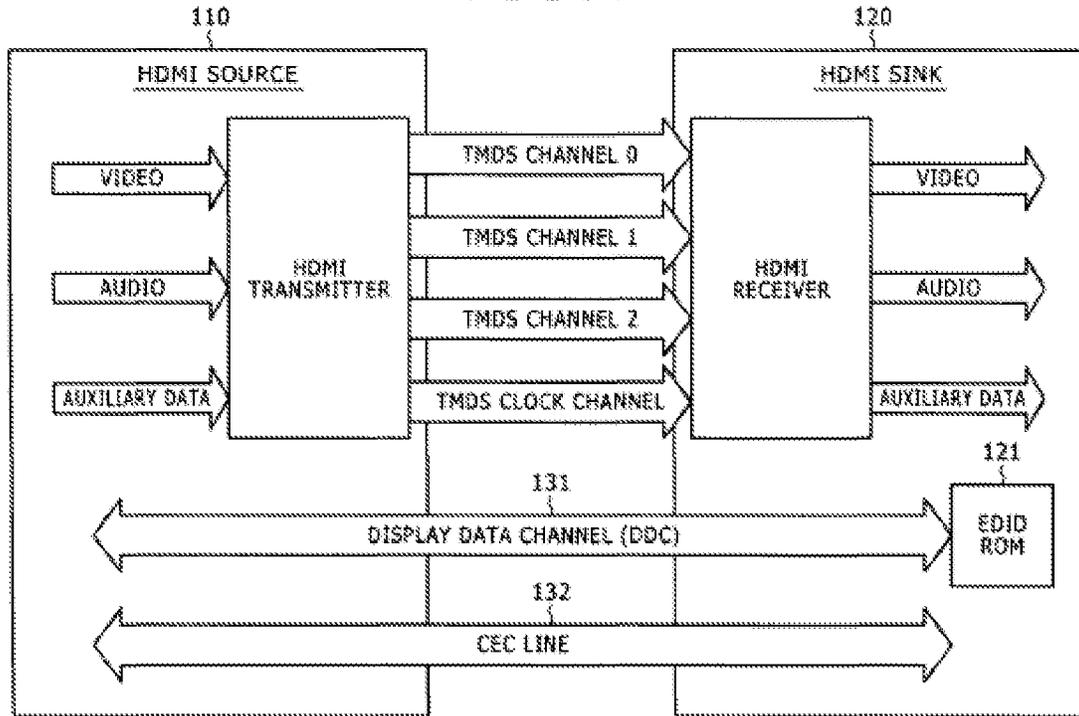
Nakahama's Figure 1 shows an HDMI standard. *Id.* **at 5:36–38.**

The Examiner finds that the TDMS channels correspond to the recited transmission components, and DDC 131 and CEC line 132 correspond to the recited receiving components. Final Act. 3. The Examiner, however, has not shown a switching operation in Nakahama that involves the recited toggling. *See, e.g., id.* at 3, 5–8. Rather, the Examiner relies on Nakahama's hot-plug state transition, which only involves setting the source to a high or low state. Nakahama 9:6–20, *cited in* Br. 10.

When the hot plug's state is "high," the selection source can read the EDID-ROM's data. Nakahama 9:33–35. When the hot plug's state is "low," the non-selection source cannot read the EDID-ROM's data. *Id.* at 9:36–41. To be sure, the hot plug's state may change the mode. Adv. Act. 2, Ans. 18–19. But unlike claimed operation, the cited portions of Nakahama do not teach or suggest a switching that toggles the TDMS

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channels, DDC, and CEC to a first or second port. *See* Nakahama 3:6–33, 54–56; 6:25–55; 9:27–41; Figs. 1, 5. Instead, in the relied-upon embodiments, Nakahama's lines remain connected to the same port. *See id.*; *accord* Br. 8–9.

The Examiner did not rely on Stone for this limitation. Final Act. 5–6. Therefore, Stone cannot cure Nakahama's deficiency in this regard.

On this record, we do not sustain the Examiner's rejection of independent claim 1, and claims 2–9, which depend from claim 1, for similar reasons.

DECISION

We reverse the Examiner's rejection of claims 1–9.

REVERSED