Paper 39 Date: January 12, 2022

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VERIZON BUSINESS NETWORK SERVICES INC., Petitioner,

v.

HUAWEI TECHNOLOGIES CO. LTD., Patent Owner.

IPR2020-01080 Patent 9,521,366 B2

Before TREVOR M. JEFFERSON, CHARLES J. BOUDREAU, and KEVIN C. TROCK, *Administrative Patent Judges*.

JEFFERSON, Administrative Patent Judge.

DECISION
Final Written Decision
Determining Some Challenged Claims Unpatentable
35 U.S.C. § 318(a)



I. INTRODUCTION

In response to Verizon Business Network Services Inc.'s ("Petitioner") Petition (Paper 2, "Pet."), we instituted an *inter partes* review of claims 1, 5, 8, 12, 15–17, 19, and 20 of U.S. Patent No. 9,521,366 B2 (Ex. 1001, "the '366 patent"). Paper 11 ("Inst. Dec."). During the trial, Huawei Technologies Co. Ltd. ("Patent Owner") filed a Response (Paper 19, "PO Resp."), Petitioner filed a Reply (Paper 27, "Reply"), and Patent Owner filed a Sur-reply (Paper 37, "Sur-reply"). An oral hearing was held with the parties, and a copy of the transcript was entered into the record. Paper 39 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6. This Decision is a Final Written Decision under 35 U.S.C. § 318(a) as to the patentability of the claims on which we instituted trial. Based on the record before us, Petitioner has shown, by a preponderance of the evidence, that claims 1, 8, 15, and 16 are unpatentable. Petitioner has not shown, by a preponderance of the evidence, that claim 5, 12, 17, 19, and 20 are unpatentable.

II. BACKGROUND

A. The '366 Patent

The '366 patent describes "a method and apparatus for playing a conference signal, a video conference terminal, and a mobile device, to improve effects of displaying a main stream signal and a presentation stream signal." Ex. 1001, 2:27–31, code (57). Specifically, the '366 patent

¹ Although Petitioner appeared at the oral hearing, it did not make a presentation and instead rested on the arguments presented in its papers and the supporting exhibits. Tr. 6:5–9.



discloses a videoconference system where a "main stream" signal (such as the video image of a presenter) is displayed on a main screen at a video conference site, and a "presentation stream" signal (such as a document) is displayed on mobile devices held by conference participants at the video conference site. *Id.* at 1:54–62, 2:32–46. The '366 patent states that this is an improvement over the prior art because the two signals "are prevented from being displayed in a PIP [picture in picture] manner, thereby improving [the] effects of playing the main stream signal and the presentation stream signal, and further improving conference experience of the conference participant and improving conference efficiency." Ex. 1001, 5:15–21.

Figure 1, below, shows a structural diagram of a video conference system of the prior art. Ex. 1001, 5:25–26.

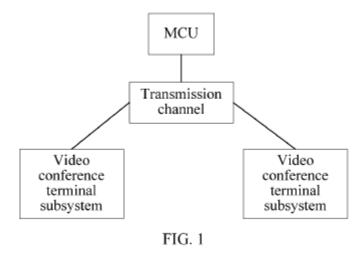


Figure 1 depicts "a video conference system [that] includes at least two video conference terminal subsystems, a transmission channel, and a multipoint control unit (MCU)." *Id.* at 1:32–35. Figure 2, below, depicts the video conference terminal subsystem of the prior art. *Id.* at 5:27–28.



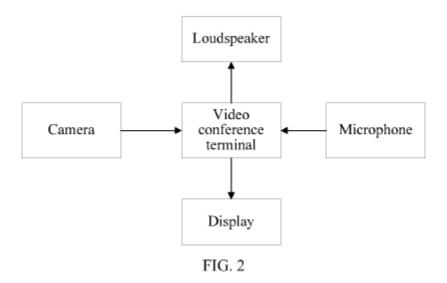


Figure 2 shows

a video conference terminal subsystem located at each [conference] site includes a video conference terminal (VCT), a video input device (for example, a camera or a camera array) for collecting a video signal or an image signal, an audio input device (for example, a microphone or a microphone array), an audio output device (for example, a loudspeaker or a loudspeaker array) for playing a received audio signal, and a display device (for example, a display or a projector) for displaying a received video (or image) signal.

Id. 1:35-44

The '366 patent discloses that the mobile device that receives the main stream signal or presentation stream signal "is a smart mobile terminal, for example, a tablet computer (e.g. an iPAD), a notebook computer, or a smartphone." Ex. 1001, 6:56–59. In addition, the primary playing device "may be a device shared by conference participants at the site (that is, a device that may be seen and/or heard by all the conference participants at the site), for example, a large screen at the site." *Id.* at 7:1–5.

Figure 5A of the '366 patent, reproduced below, provides one embodiment of the disclosed system. Ex. 1001, Fig. 5A, 8:19–23.



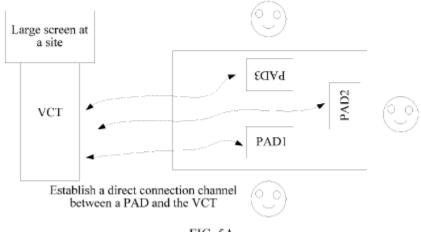


FIG. 5A

Figure 5A shows the VCT "establishing a connection channel between a mobile device held by a conference participant [PAD1, PAD2 and PAD3] and a video conference terminal that are at a site." *Id.* at 8:11–18. This connection may be a "direct connection channel between the mobile device held by the conference participant and a VCT that are at the site or establishing, using another mobile device, an indirect connection channel between the mobile device held by the conference participant and a VCT that are at the site." *Id.* The '366 patent describes that a "direct connection channel between the mobile device and the VCT refers to a channel on which no routing mobile device (or relay mobile device) exists between the mobile device and the VCT, and the mobile device is directly connected to the VCT" as shown in Figure 5A. *Id.* at 8:19–23.

The '366 patent further discloses that an "indirect connection channel between the mobile device and the VCT includes a connection channel between the mobile device and a routing mobile device (or a relay mobile device), and a connection channel between the routing mobile device (or the relay mobile device) and the VCT." Ex. 1001, 8:24–32. Thus, "the mobile



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