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Paper 40
Entered: May 9, 2019

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HYTERA COMMUNICATIONS CORP. LTD.,
Petitioner,

v.

MOTOROLA SOLUTIONS, INC.,
Patent Owner.

Case IPR2018-00176
Patent 6,591,111 B1

Before TREVOR M. JEFFERSON, DANIEL N. FISHMAN, and PATRICK M. BOUCHER, *Administrative Patent Judges*.

BOUCHER, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

In response to a Petition (Paper 2, "Pet.") filed by Hytera Communications Corp. Ltd. ("Petitioner"), we instituted an *inter partes* review of claims 1, 6, 7, 11–13, 15, and 16 of U.S. Patent No. 6,591,111 B1 ("the '111 patent"). Paper 7 ("Dec."). During the trial, Motorola Solutions, Inc. ("Patent Owner") filed a Response (Paper 18, "PO Resp.") to which Petitioner filed a Reply (Paper 29, "Reply") and Patent Owner filed an authorized Sur-Reply (Paper 35, "Sur-Reply"). Petitioner filed a Motion to Exclude evidence filed by Patent Owner, which Patent Owner opposed, and to which Petitioner replied. Papers 33, 36, 38. 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, 6, 7, and 12 of the '111 patent are unpatentable, but Petitioner has not shown that claims 11, 13, 15, and 16 are unpatentable.

I. BACKGROUND

A. The '111 Patent

1. Overview

The '111 patent "relates to a group radio communication system which implements point-to-multipoint communications." Ex. 1001, 1:6–8.

"Point-to-multipoint (PTM) refers to a communication circuit in which a single signal goes from originating group member to many destination or target group members," with PTM communications sometimes being referred to in the '111 patent as "monologs." *Id.* at 1:15–17, 1:28–32. In particular, the patent addresses the implementation of point-to-multipoint communications between independent radio sub-networks, which "are coupled together through a group controller to form an overall network for point-to-multipoint communications." *Id.* at 1:8–12. For example, subscribers in one radio sub-network (such as a city police department) may need to communicate with subscribers in a different radio sub-network (such as a federal agency). *Id.* at 1:54–63. The patent identifies two principal challenges in doing so: inefficient use of existing communication infrastructures and incompatibilities between the independent radio sub-networks. *Id.* at 1:42–63.

Figure 1 of the '111 patent is reproduced below.

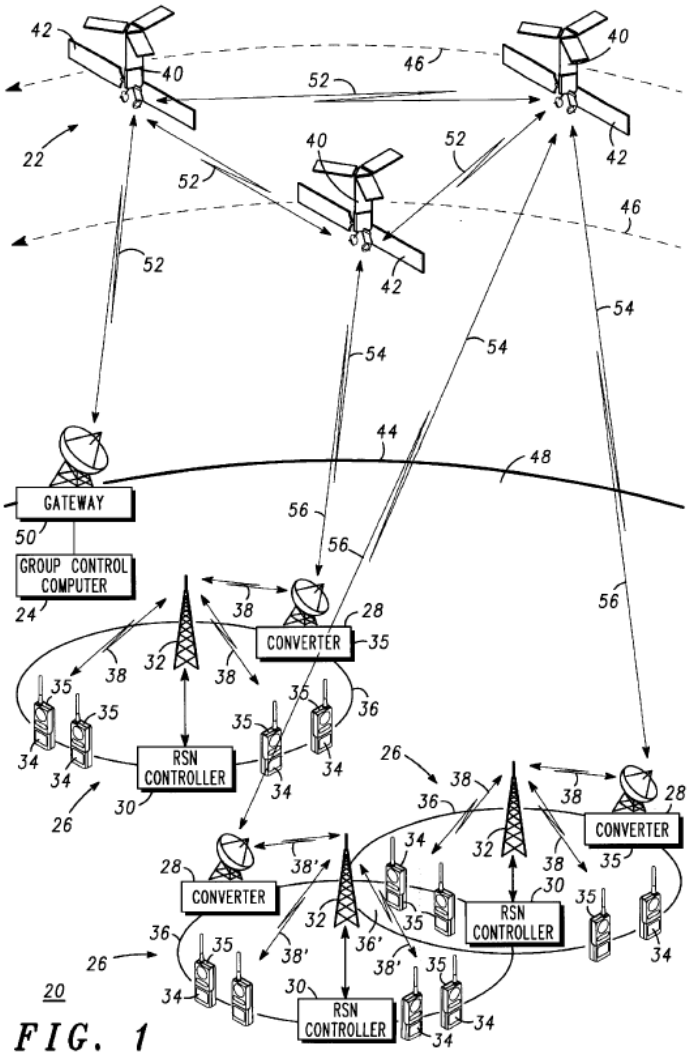

FIG. 1

Figure 1 illustrates a layout of group radio communication system 20, which includes data communication network 22 coupled to group controller 24 and a number of radio sub-networks 26. *Id.* at 2:31–35. Data communication network 22 is a packet switched network, i.e. it "merely includes addressing information in data packets and sends the addressed data packets . . . for delivery to their intended destinations on a packet-by-packet basis." *Id.* at

3:42–50. Each radio sub-network 26 includes radio sub-network controller 30, base station 32, and subscriber radios 34. *Id.* at 2:36–38. Within each sub-network 26, radio sub-network controller 30 coordinates among call requests from the subscribers within the sub-network. *Id.* at 2:36–49. Each sub-network 26 also includes converter 28, which translates between protocols used in network 22 and the data communication protocol used by group controller 24. *Id.* at 2:36–38, 4:34–35.

The '111 patent discloses that group controller 24 "may be implemented using conventional computer technology . . . , including, for example, a processor unit, a memory unit, a hard drive unit, I/O units such as video display, keyboard, mouse, and the like, and an interface to gateway 50." *Id*. at 3:65–4:3. Figure 8 is reproduced below.

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