

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ERICSSON INC. AND
TELEFONAKTIEBOLAGET LM ERICSSON,
Petitioner,

v.

INTELLECTUAL VENTURES I LLC AND
INTELLECTUAL VENTURES II LLC,
Patent Owner.

Case No. IPR2014-01412
Case No. IPR2015-01077
Patent 5,963,557

Before BRIAN J. McNAMARA, JUSTIN BUSCH, and
MIRIAM L. QUINN, *Administrative Patent Judges*.

McNAMARA, *Administrative Patent Judge*.

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

BACKGROUND

Ericsson Inc. and Telefonaktiebolaget LM Ericsson (collectively, “Petitioner”) filed a Petition (Paper 1, “Pet.”) for *inter partes* review of claims 1, 2, 4–7, 10, 12–16, 18–21, 24, 26–28, and 32 of U.S. Patent No. 5,963,557 (Ex. 1001, “the ’557 Patent”). On March 18, 2015 we entered a Decision to Institute a trial (Paper 8, “Dec. to Inst.”) on the following challenges to patentability of the claims:

Claims 7 and 21 of the ’557 Patent as anticipated under 35 U.S.C. § 102 by U.S. Patent No. 5,392,450 (“the ’450 Patent”);

Claims 1, 4, 5, 7, 12, 13, 15, 18, 19, 21, 26, and 27 of the ’557 Patent as obvious under 35 U.S.C. § 103(a) over the ’450 Patent;

Claims 1, 2, 4–7, 10, 12, 13, 15, 16, 18–21, 24, 26, 27, and 32 of the ’557 Patent as obvious under 35 U.S.C. § 103(a) over U.S. Patent No. 6,334,219 (“the ’219 Patent”);

Claim 32 of the ’557 Patent as anticipated under 35 U.S.C. § 102 by the ’219 Patent;

Claims 15, 18, and 20 of the ’557 Patent as obvious under 35 U.S.C. § 103(a) over the combination of the ’450 Patent and the admitted prior art;

Claims 5, 10, 12, and 13 of the ’557 Patent as obvious under 35 U.S.C. § 103(a) over the combination of the ’450 Patent and the ’219 Patent;

Claims 19, 24, 26, 27, and 32 of the ’557 Patent as obvious under 35 U.S.C. § 103(a) over the combination of the ’450 Patent, the ’219 Patent, and the admitted prior art;

Claims 7 and 14 of the ’557 Patent as obvious under 35 U.S.C. § 103(a) over the combination of the ’450 Patent and U.S. Patent No. 5,680,398 (“the ’398 Patent”); and

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Claims 21 and 28 of the '557 Patent as obvious under 35 U.S.C. § 103(a) over the combination of the '450 Patent, the '398 Patent, and the admitted prior art.

On July 10, 2015, we joined IPR2015-01077 to this proceeding and instituted trial on the following grounds:

Claims 11 and 25 of the '557 patent as obvious under 35 U.S.C. § 103(a) over the '450 patent;

Claims 11 and 25 of the '557 patent as obvious under 35 U.S.C. § 103(a) over the combination of the '450 patent and the '219 patent; and

Claims 11 and 25 of the '557 patent as obvious under 35 U.S.C. § 103(a) over the combination of the '450 patent and Bungum.

In the joined proceeding Intellectual Ventures I LLC and Intellectual Ventures II LLC (collectively, "Patent Owner") filed a Patent Owner Response (Paper 17, "PO Resp.") and Petitioner filed a Reply (Paper 22, "Reply"). Oral argument was consolidated with the oral argument in IPR2014-01471, which concerns a continuation-in-part of the '557 Patent, and heard on December 15, 2015. A transcript of the consolidated hearing (Paper 35, "Tr.") was entered in this proceeding.

We have jurisdiction under 35 U.S.C. § 311 and base our decision on the preponderance of the evidence. 37 C.F.R. § 42.1(d). Having reviewed the arguments of the parties and the supporting evidence, we conclude that claims 1, 2, 4-7, 10-16, 18-21, 24-28, and 32 have been shown to be unpatentable.

THE '557 PATENT

The '557 Patent relates to a method and system for enabling point-to-point and multicast communication in a network using three types of communication

channels—namely, upstream payload channels, upstream control channels, and downstream channels. Ex. 1001, Abstract. Figure 7 of the '557 Patent is reproduced below.

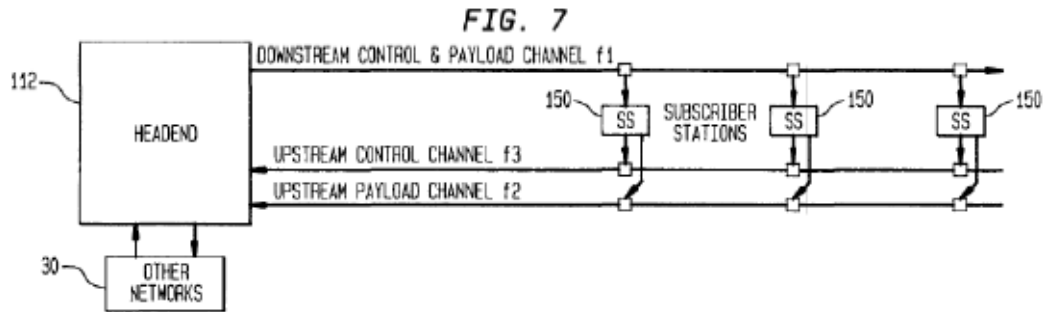


Figure 7 illustrates the three types of communication channels allocated by the network of the invention.

The '557 Patent discloses that a central controller at the head end of the network is connected to the subscriber stations via a shared medium. Ex. 1001, col. 8, ll. 2–5. An upstream payload channel carries payload data from the stations to the central controller, and an upstream control channel is used to transmit upstream control data. Downstream channels carry data from the central controller to the stations. *Id.* at col. 8, ll. 34–48. To allow “contention free transmission” on an upstream payload channel (*id.* at col. 11, ll. 33–34), stations send reservation requests on the upstream control channel to the central controller, which responds by assigning specific upstream transmission slots to each station and indicates the slot assignment by transmitting a control message (“reservation grant”) to the stations on the downstream channel (*id.* at col. 8, ll. 51–55; col. 13, ll. 39–48). Each station then transmits payload data only in the assigned slots of the upstream payload channel. *Id.* at col. 8, ll. 56–58.

ILLUSTRATIVE CLAIMS

Of the challenged claims, claims 1, 6, 7, 10, 11, 12, 13, 15, 20, 21, 24, 26, 27, 28, and 32 are independent. Claims 1 and 15 are illustrative and are reproduced below:

1. A network comprising:
 - a centralized controller,
 - a station connected to said centralized controller over a shared medium,
 - a first distinct shared unidirectional transmission path being established between said centralized controller and said station for transmitting data from said centralized controller to said station, wherein the first path being a downstream channel, and
 - at least a second and third distinct shared unidirectional transmission paths being established between said centralized controller and said station for transmitting data from said station to said centralized controller, wherein the second and third paths each being an upstream channel,
 - wherein said station transmitting reservation requests data on said second path and receiving a payload data transmission grant from said centralized controller on said first path to transmit payload data on said third path from said station to said centralized controller on time-slots allocated by said centralized controller, and
 - wherein said centralized controller receiving said reservation request data on said second path from said station and transmitting on said first path a payload data transmission grant to said station for transmitting payload data on said third path on said time-slots allocated by said centralized controller and
 - wherein each of said transmission paths comprises a channel having a unique carrier frequency and bandwidth, and a modulation scheme.

15. A multiple access method via a shared medium of a network, said network comprising a centralized controller and a plurality of stations connected to said centralized controller over a shared medium, wherein

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