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Lee et al.

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(54) **METHOD AND APPARATUS FOR DIGITAL CELLULAR INTERNET VOICE COMMUNICATIONS**

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(51) **Int. Cl.**⁷ **H04L 12/66**; H04L 12/28; H04J 1/14

(52) **U.S. Cl.** **370/352**; 370/395.2; 370/496; 455/466

(58) **Field of Search** 455/466, 414, 455/433, 435, 445; 370/352, 331, 353, 356, 400, 401, 389, 312, 493, 494, 495, 465, 466, 357, 328, 313; 709/230

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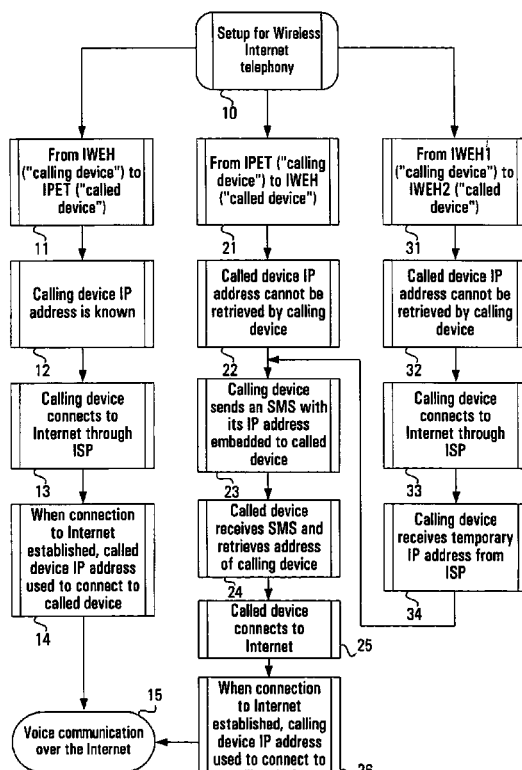
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Primary Examiner—Hanh Nguyen

(57) **ABSTRACT**

A digital cellular handset capable of supporting voice communications over the Internet, in addition to the digital cellular handset's usual mode of voice communications over the digital cellular network/public telephony network is disclosed. Internet protocol software such as H.323, Session Initiation Protocol (SIP), and Media Gateway Control Protocol (MGCP) is stored within the digital cellular handset device run on an H.323 Digital Signal Processor (DSP) and H.323 microcontroller to packetize and unpacketize the digital data streams received by or transmitted from the handset. There is also disclosed the use of the Short Message Service (SMS) with PCS digital cellular communication systems to allow call alerting for digital cellular call set-up, initiation and establishment.

26 Claims, 6 Drawing Sheets



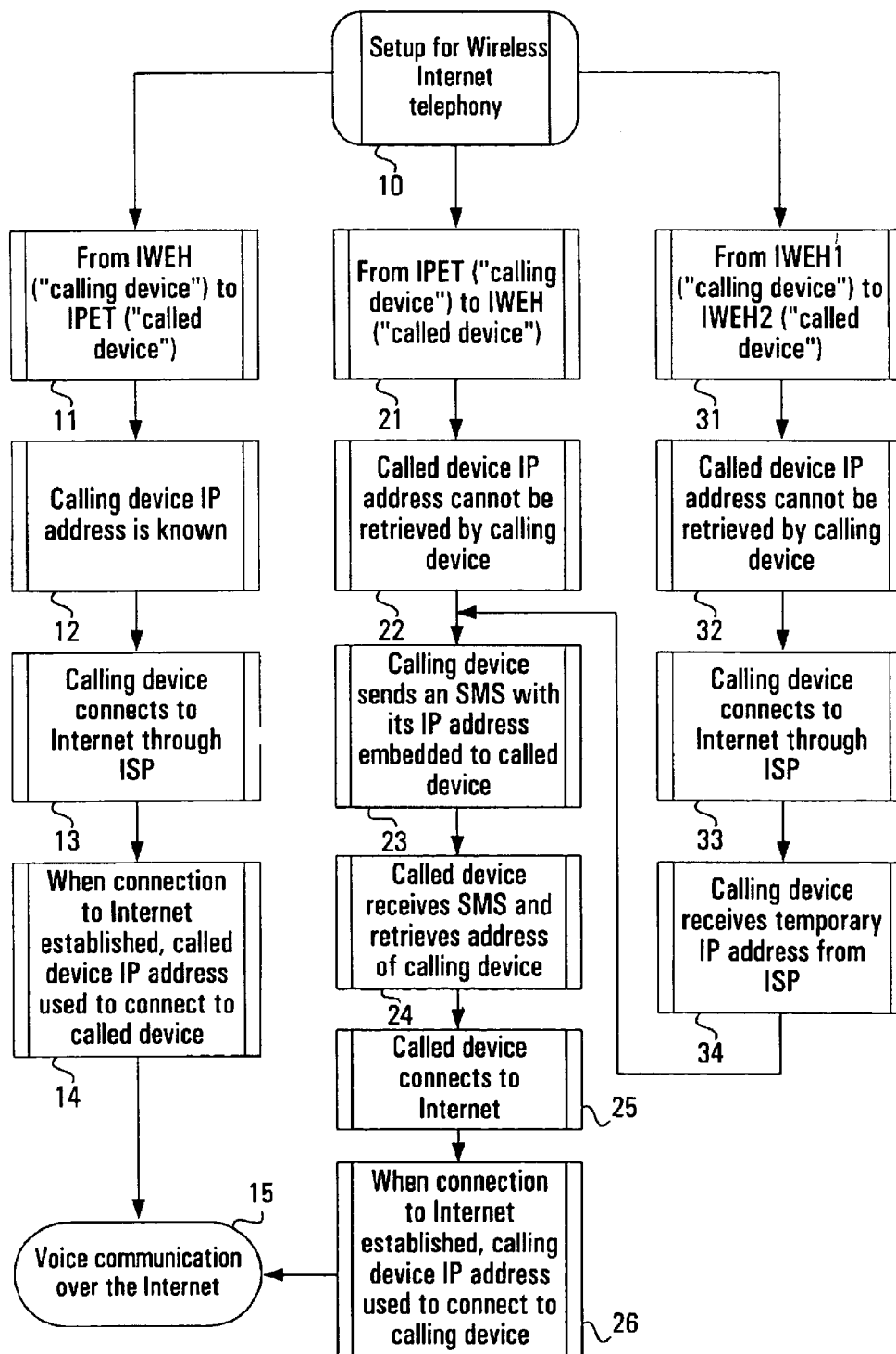


FIG. 1

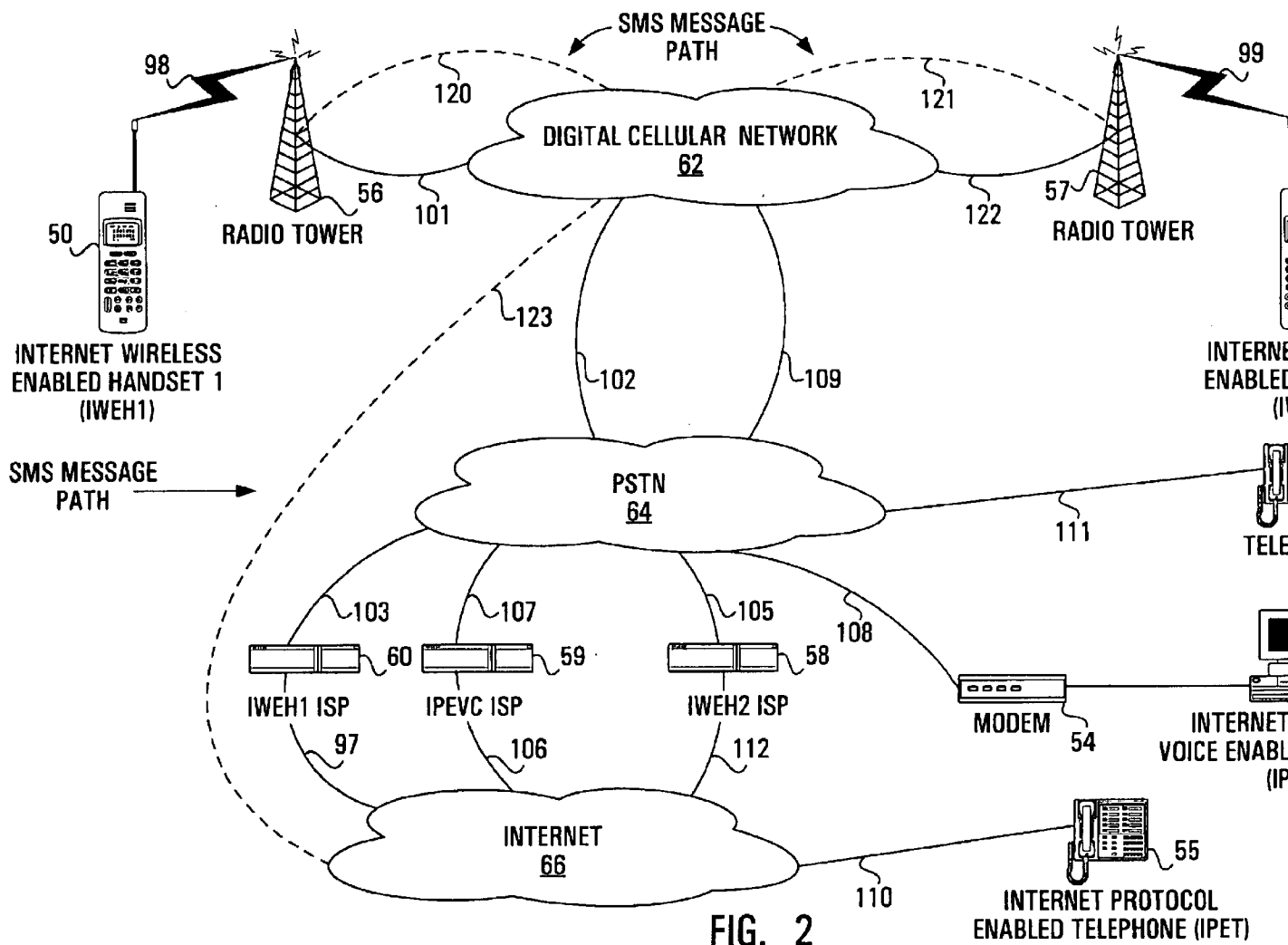


FIG. 2

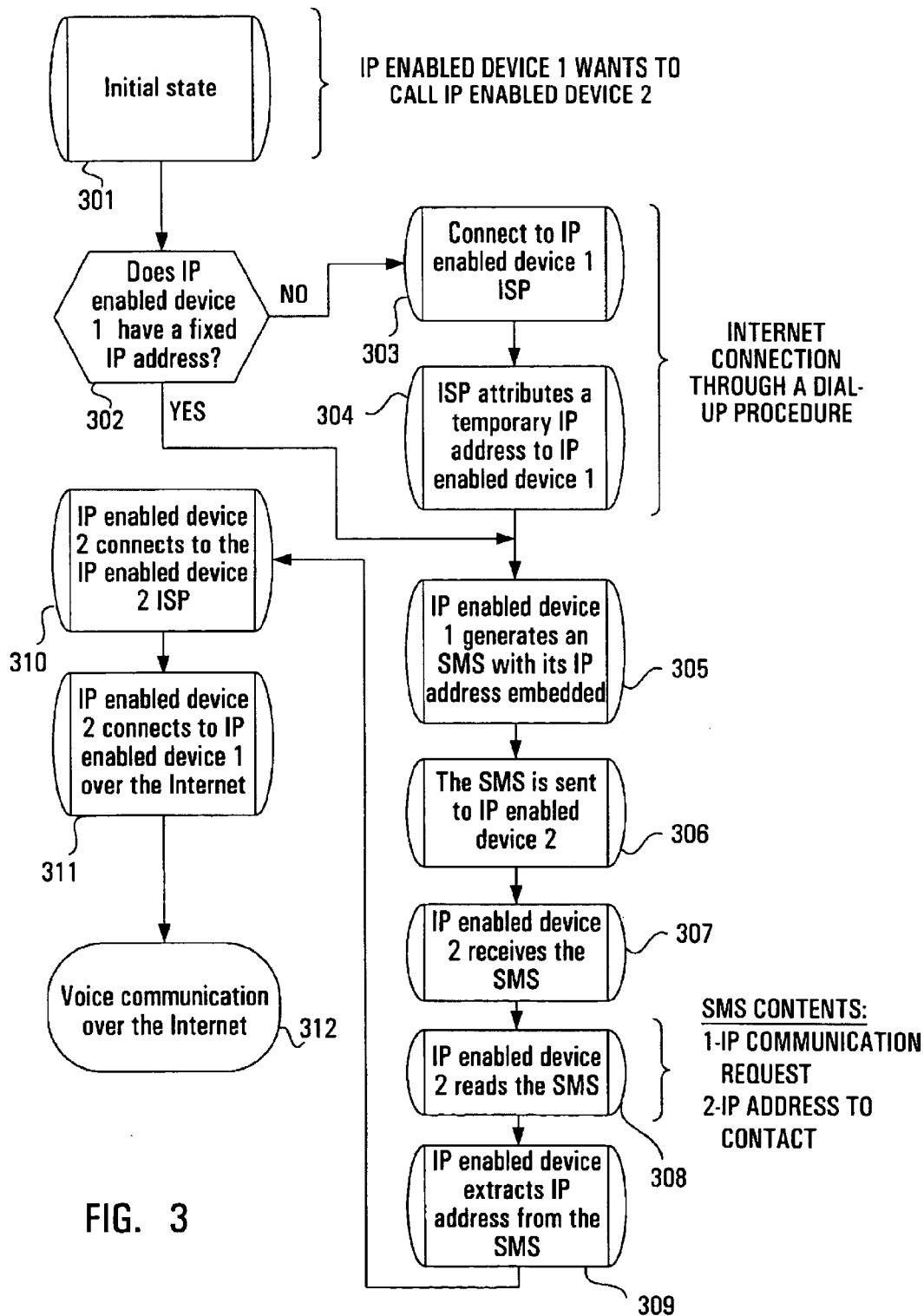


FIG. 3

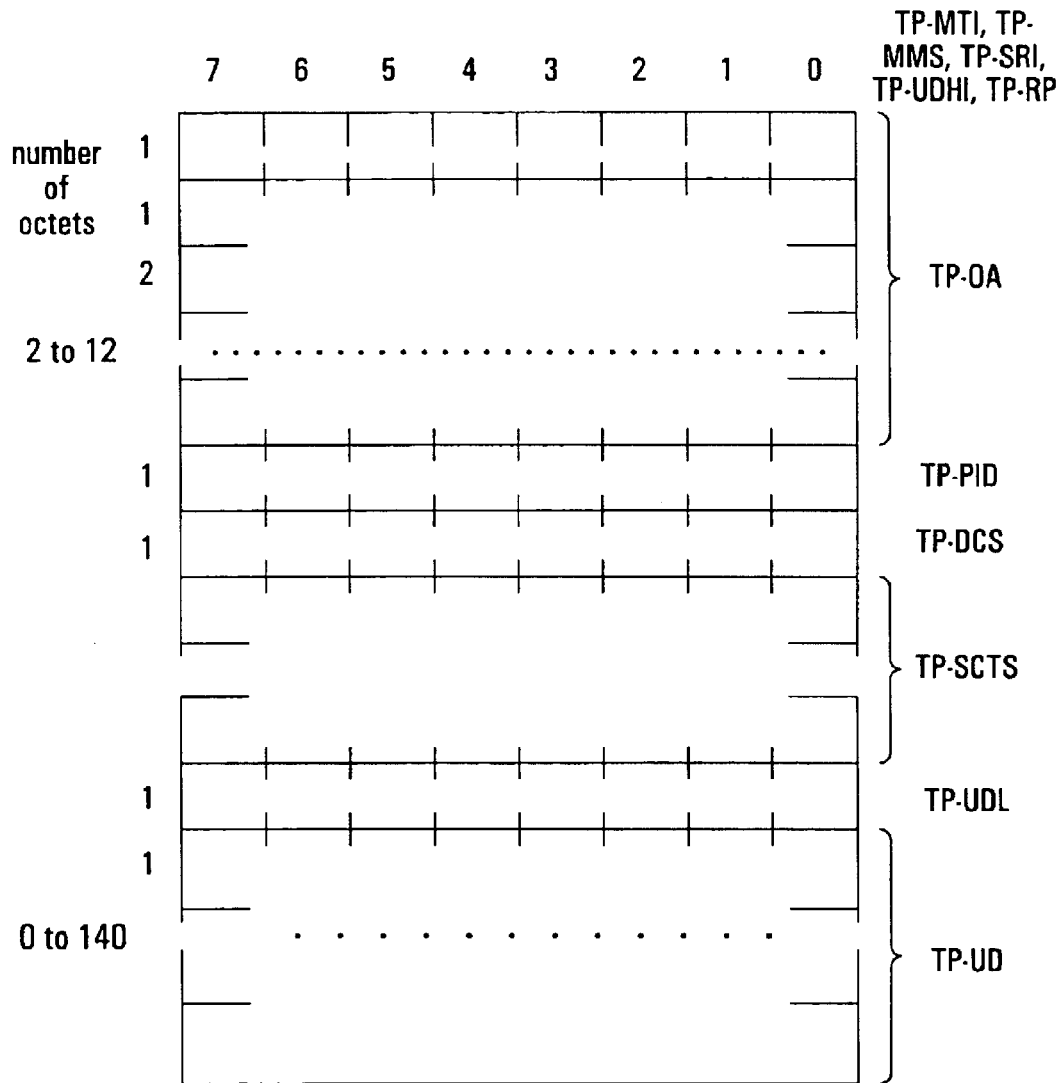


FIG. 4A

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