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Campanella

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(54) **DIGITAL BROADCAST SYSTEM USING SATELLITE DIRECT BROADCAST AND TERRESTRIAL REPEATER**

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(51) **Int. Cl.⁷** **H04B 7/155**

(52) **U.S. Cl.** **370/315; 370/480; 455/3.02; 455/17**

(58) **Field of Search** **370/315, 316, 370/480, 481, 485; 455/3.01, 3.02, 3.06, 455/11.1, 12.1, 7, 16, 17, 427, 430, 118**

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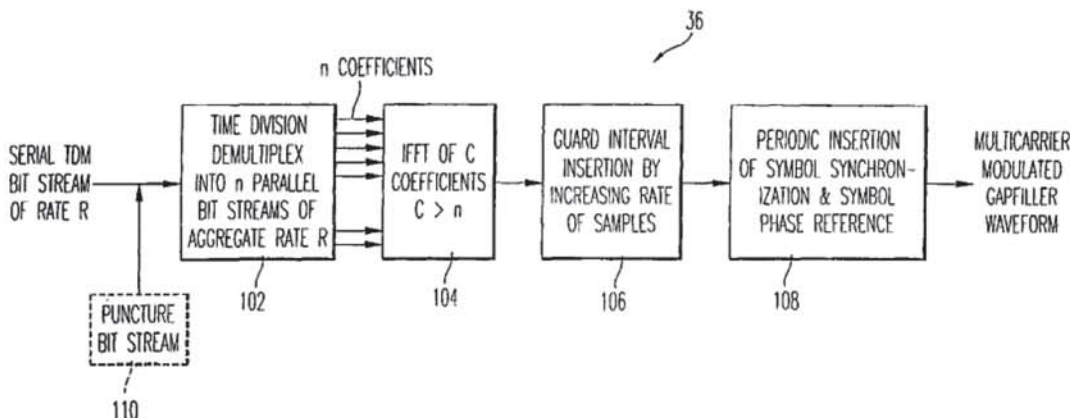
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(57) **ABSTRACT**

A digital broadcast system is provided which uses a satellite direct radio broadcast system having different downlink modulation options in combination with a terrestrial repeater network employing different re-broadcasting modulation options to achieve high availability reception by mobile radios (14), static radios and portable radios (14) in urban areas, suburban metropolitan areas, and rural areas, including geographically open areas and geographic areas characterized by high terrain elevations. Two-arm and three-arm receivers are provided which each comprise a combined architecture for receiving both satellite and terrestrial signals, and for maximum likelihood combining of received signals for diversity purposes. A terrestrial repeater is provided for reformatting a TDM satellite signal as a multicarrier modulated terrestrial signal. Configurations for indoor and outdoor terrestrial repeaters are also provided.

26 Claims, 10 Drawing Sheets



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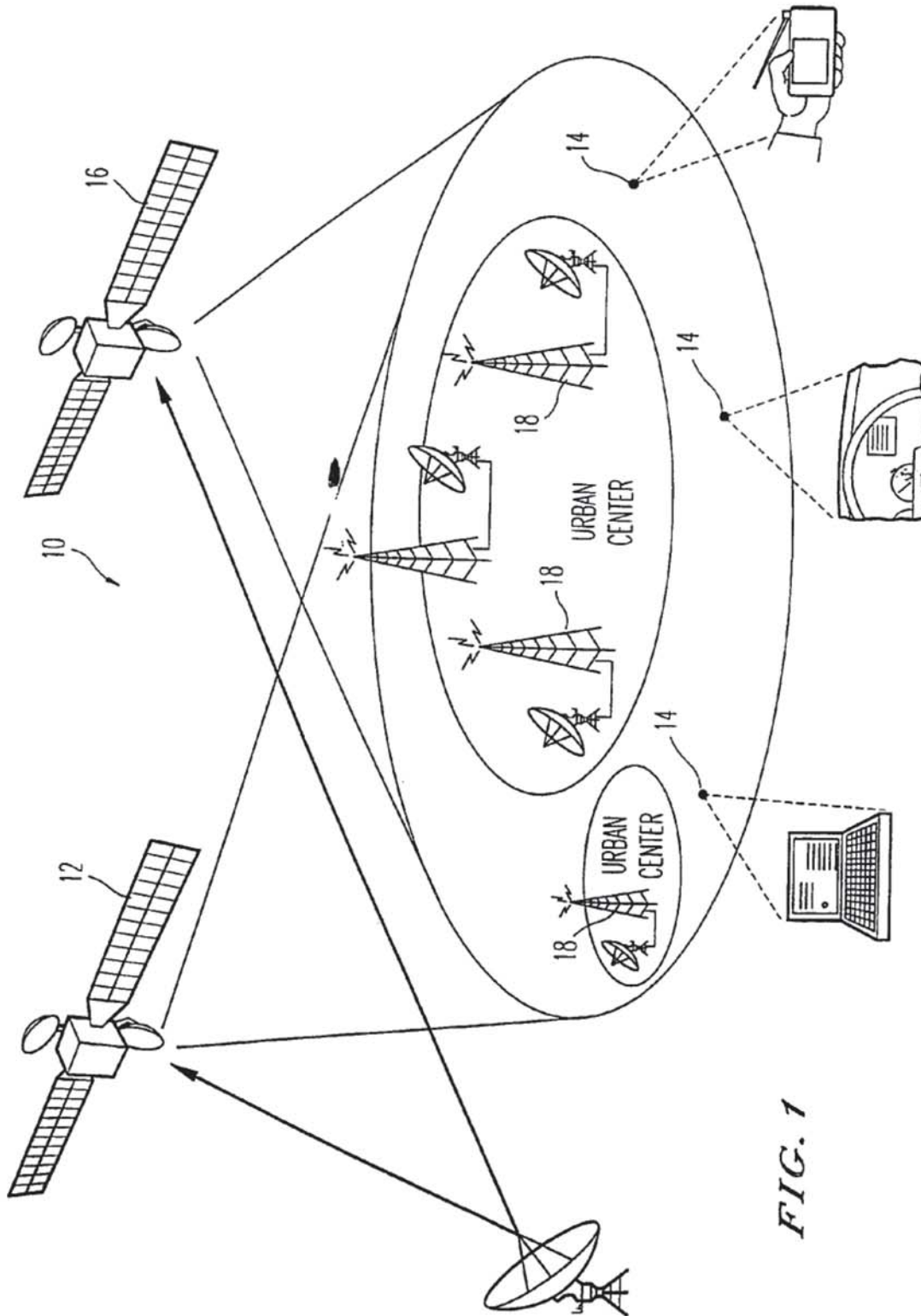
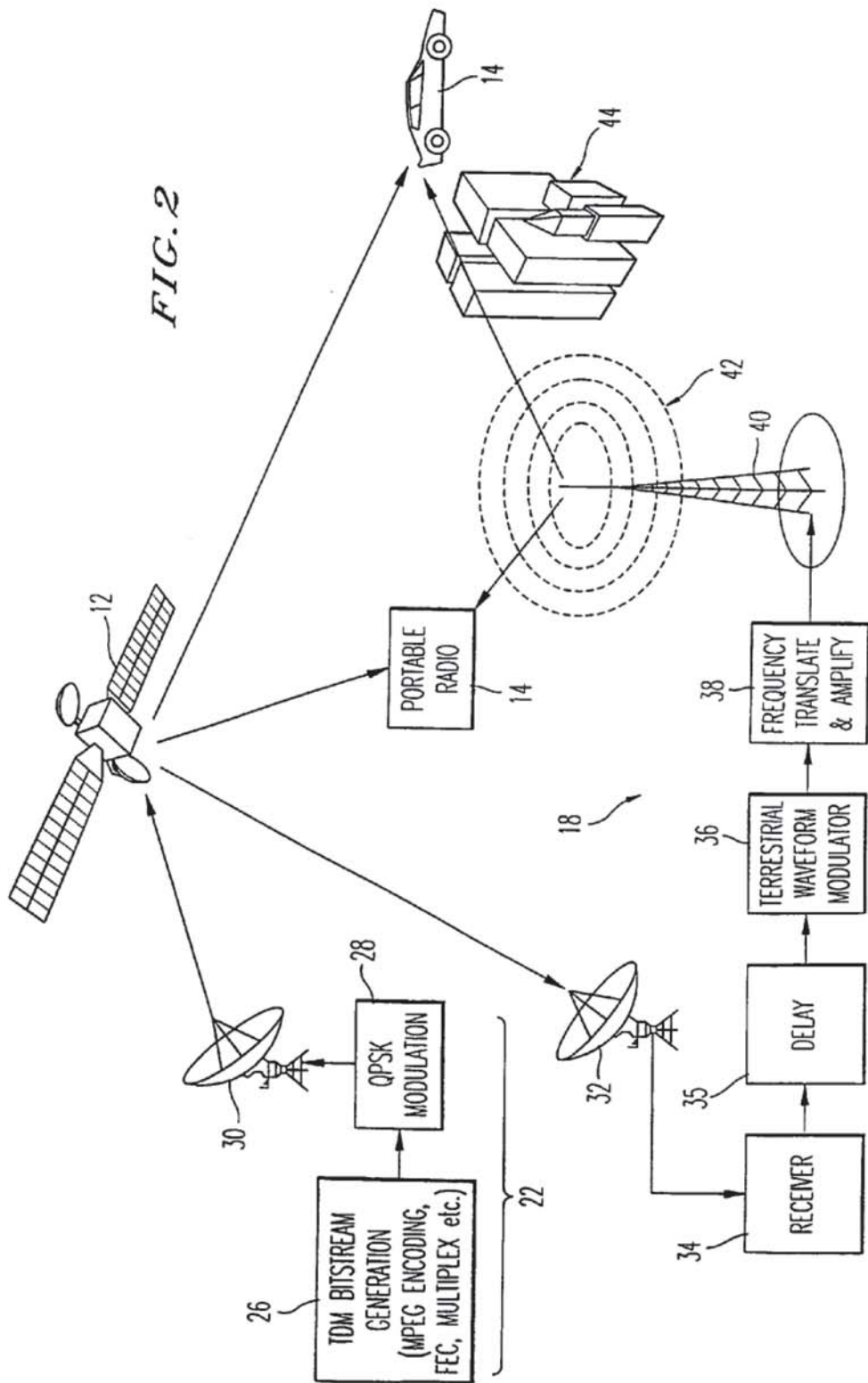


FIG. 1



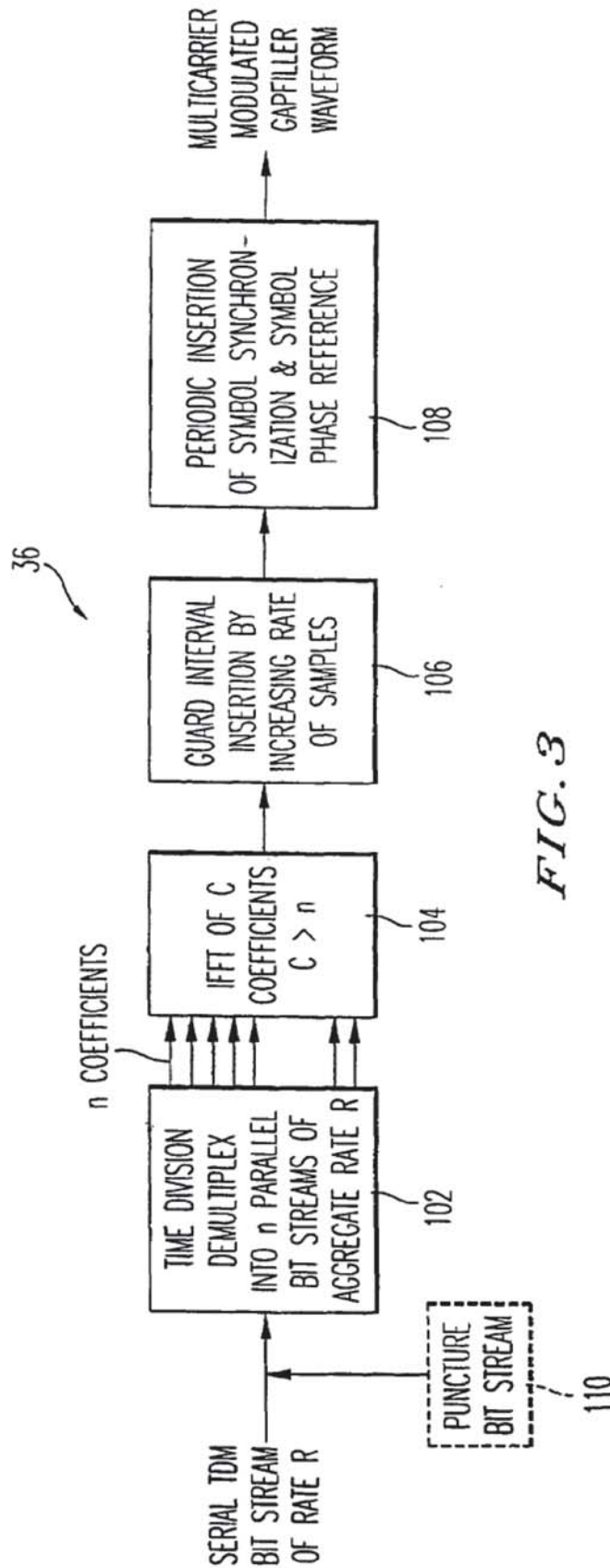


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