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(71) Applicant: **WORLDSPACE, INC. [US/US]; 2400 N. Street, N.W., Washington, DC 20037 (US).**

(72) Inventors: **CAMPANELLA, S., Joseph; 18917 Whetstone Circle, Gaithersburg, MD 20879 (US). HARRIS, G., Christopher; 1325 15th Street, N.W., Washington, DC 20005 (US).**

(74) Agents: **HOLMES, John, E. et al.; Roylance, Abrams, Berdo & Goodman, L.L.P., 1225 Connecticut Avenue, N.W., Washington, DC 20036 (US).**

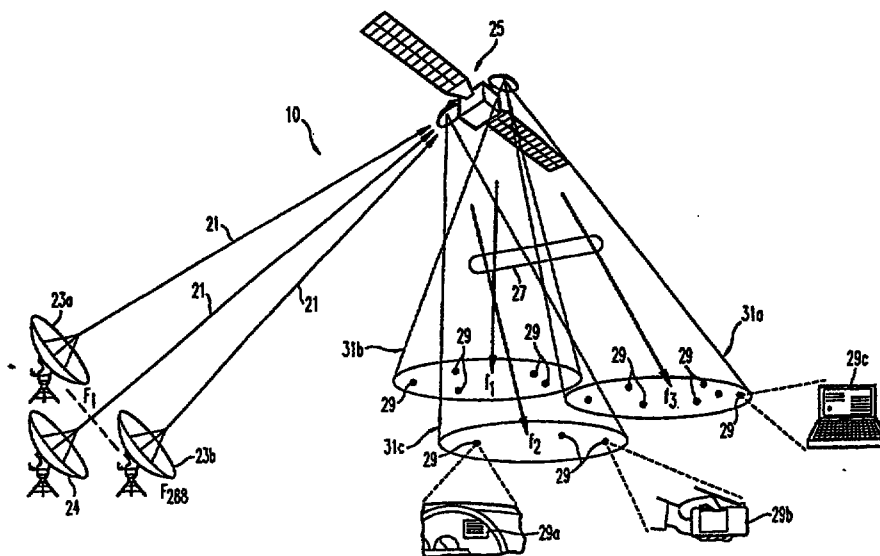
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(54) Title: **DIRECT SATELLITE DIRECT BROADCAST SYSTEM**



(57) Abstract

A satellite direct radio broadcast system (10) assembles bits of broadcast programs into prime rate increments assembled into a frame (100). Frames (100) are divided into symbols which are demultiplexed into a plurality of prime rate channels (110). The prime rate channels (110) are demultiplexed into corresponding broadcast frequencies (21) for transmission to a satellite (25). An on board demultiplexer (144) separates uplink signals into time division multiplexed streams of symbols (154). A phase shift keying demodulator (146) demodulates the symbols into digital baseband data. The satellite payload switches the symbols into time division multiplexed data streams using two ping-pong buffers (156) and a routing switch (172). The receivers (29) process TDM streams using frame preambles and control channels provided by the satellite (25) and service control headers provided by broadcast stations (23, 24). A management system is provided to manage the satellite (25) and broadcast stations (23, 24).