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(54) Title: FLEXIBLE INTRA-SATELLITE SIGNAL PATHWAYS

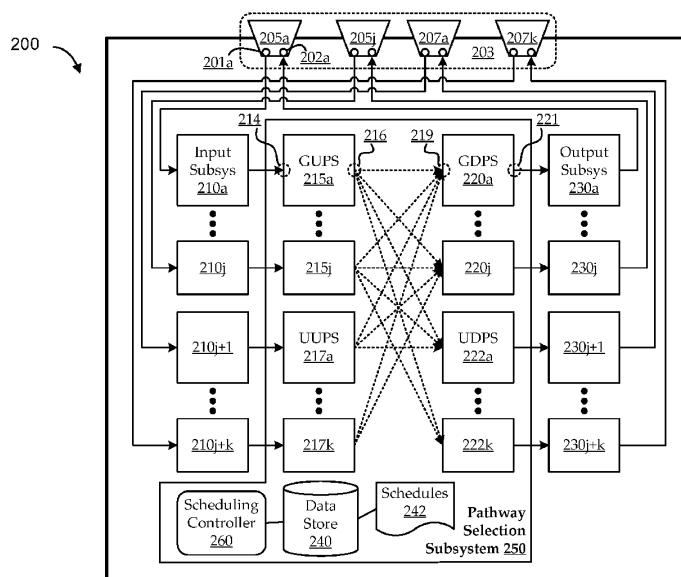


FIG. 2

(57) Abstract: Systems and methods are described for enabling flexible signal pathways within a satellite of a satellite communications system. For example, a pathway selection subsystem in a bent-pipe satellite enables a flexible arrangement of non-processed signal pathways that couple uplink antenna ports with downlink antenna ports via uplink and downlink pathway selectors. The pathway selectors can be dynamically reconfigured (e.g., on orbit), so that the configuration of the pathway selectors at one time can form one set of signal pathways between respective uplink and downlink antenna ports, and the configuration at another time can form a different set of signal pathways between respective uplink and downlink antenna ports. The pathway selection subsystem can have a simulcast mode which, when active, couples each of at least one of the uplink antenna ports with multiple of the user downlink antenna ports to form one or more simulcast signal pathways.

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