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(54) Title: DIGITIZER WITH TIMING AND FREQUENCY SYNCHRONIZATION

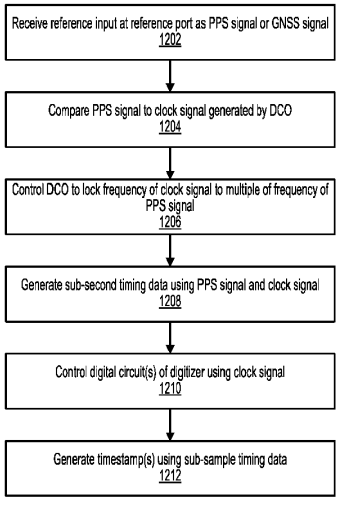



FIG. 12

(57) Abstract: Described herein are techniques for performing timing and frequency synchronization at a digitizer for use at a ground station or a remote terminal of a satellite communication system. A reference input is received at a reference port of the digitizer, the reference input being a PPS signal or a GNSS signal from which the PPS signal is derived. The PPS signal is compared to a clock signal generated by a DCO. The DCO is controlled to lock a frequency of the clock signal to a multiple of a frequency of the PPS signal. Sub-second timing data is generated using the PPS signal and the clock signal. The PPS signal is used to compute a seconds component of the sub-second timing data. The clock signal is used to compute a sub-second component of the sub-second timing data.

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