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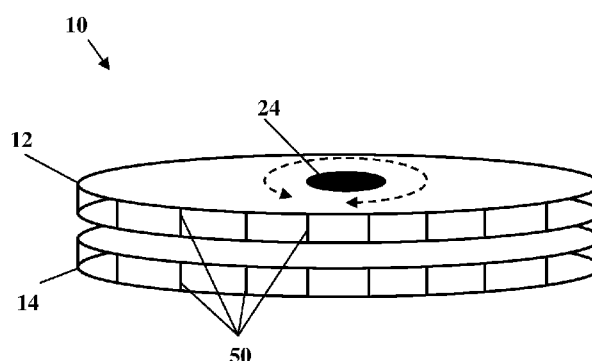


FIG. 4

(57) Abstract: A transponder system is presented, comprising first and second antenna arrays each comprising a plurality of antenna elements arranged in a predetermined geometry. The antenna elements of the first antenna array are respectively interconnected with corresponding antenna elements of the second antenna array by respective connection lines thereby forming plurality of receiving-transmitting pairs of antenna elements. A receiving-transmitting pair is configured to receive an input electro-magnetic signal by one antenna element thereof and transmit a corresponding output signal by the other antenna element, thereby enabling collective collection of a signal waveform and transmission of a corresponding output signal waveform. The first and second antenna arrays are rotatable with respect to one another about at least one predetermined rotation axis, thereby enabling variation of direction of propagation of the output signal waveform with respect to direction of propagation of the collected signal waveform.