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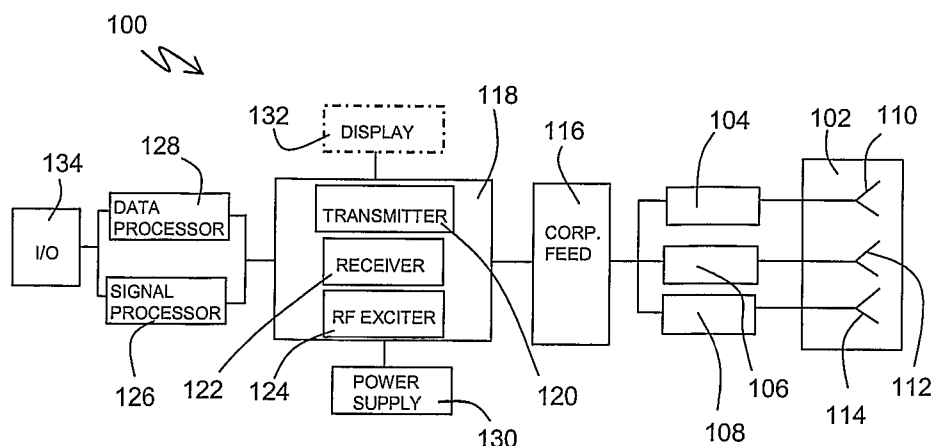
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(54) Title: ANTENNA TRANSCEIVER SYSTEM



(57) Abstract: Provided is an antenna transceiver system (100) for transmitting, receiving and processing voice, digital data, radar and IR signals. The system (100) includes an antenna array (102) having a plurality of radiating elements (110, 112, 114), each element (110, 112, 114) connected to a transmit/receive ("T/R") module (104, 106, 108). Each T/R module (104, 106, 108) may include phase shifters (200, 202, 204) and a phase conjugation module (206, 208, 210) for transmitting a return signal along a beam path of an incoming signal. The system (100) is disposed on a plurality of vertically aligned planes (402) integrated into a compact tile (400). The tiles (400) can be embedded in a headgear (500) of a user, allowing for hands-free operation of the system. Alternatively, the system (100) can be integrated into a vehicle (700), man-transportable backpack (800), or other designated platforms.