

COMMUNICATION CHANNEL WITH REED-SOLOMON DECODING AND SINGLE PARITY CHECK

ABSTRACT OF THE DISCLOSURE

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A communication channel including Reed-Solomon (RS) and single-parity-check (SPC) encoding/decoding. Multiple RS codewords are combined and then SPC encoded into an RS/SPC array. A soft-input soft-output (SISO) channel detector detects the RS/SPC encoded bits and provides soft (reliability) information on these bits. A combined RS and SPC error correction block provides a recovered user output. An iterative soft input decoding algorithm combines RS and SPC error correction.

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FIGURE 5