

ABSTRACT OF THE DISCLOSURE

SOFT-IN SOFT-OUT DECODER USED FOR AN ITERATIVE ERROR CORRECTION DECODER

Adders each add up an addition value sent from a metric calculator and a state metric read from a memory. A maximum value selector generates a first likelihood when a data bit is 1, based on the addition values added up by the adders. A maximum value selector generates a second likelihood when a data bit is 0, based on the addition values added up by the adders. A subtracter subtracts the second likelihood from the first likelihood to generate a likelihood ratio, and a subtracter subtracts data from the likelihood ratio and generates extrinsic information. A re-normalizer multiplies the extrinsic information by a predetermined value to re-normalize it and temporarily stores it in a memory. The extrinsic information stored in the memory is used as the prior probability information for the next iterative decoding.

20

FIG. 9