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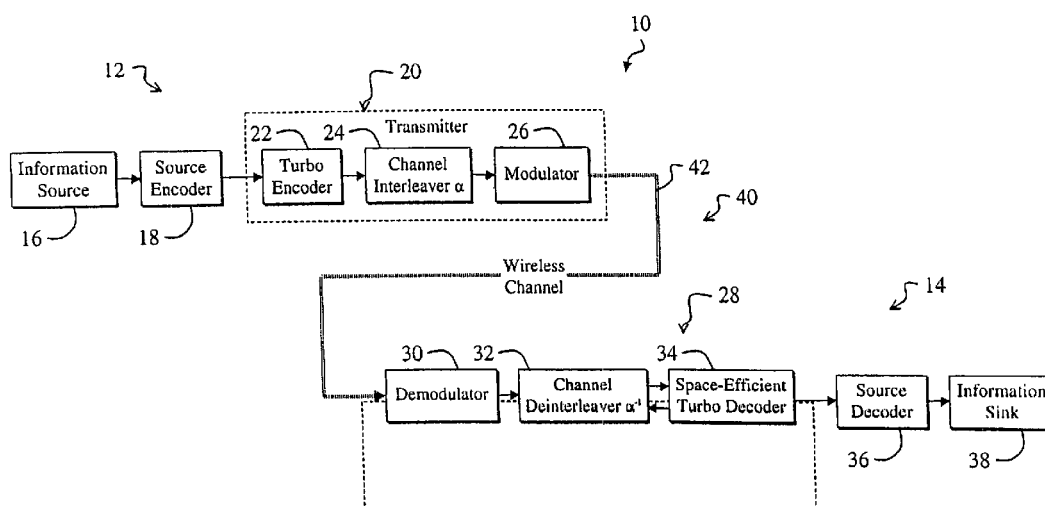
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(54) Title: SPACE-EFFICIENT TURBO DECODER



(57) **Abstract:** An efficient turbo decoder. The disclosed turbo decoder includes a first mode of operation in which the turbo decoder uses a first functional loop. The first functional loop includes a memory bank, a read interleaver, a first multiplexer (MUX), a RAM file, a log-MAP decoder, a write interleaver, and a second MUX. The disclosed turbo decoder further includes a second mode of operation in which a second functional loop is used. The second functional loop includes the memory bank, the first MUX, the RAM file, the log-MAP decoder, and the second MUX. The memory bank is a dual port extrinsic memory. The disclosed turbo decoder circuit switches between the first mode and the second mode.