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(54) **UNEQUAL ERROR PROTECTION IN MULTI-CARRIER TRANSMISSION**

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(58) **Field of Search** 714/774, 790, 714/751

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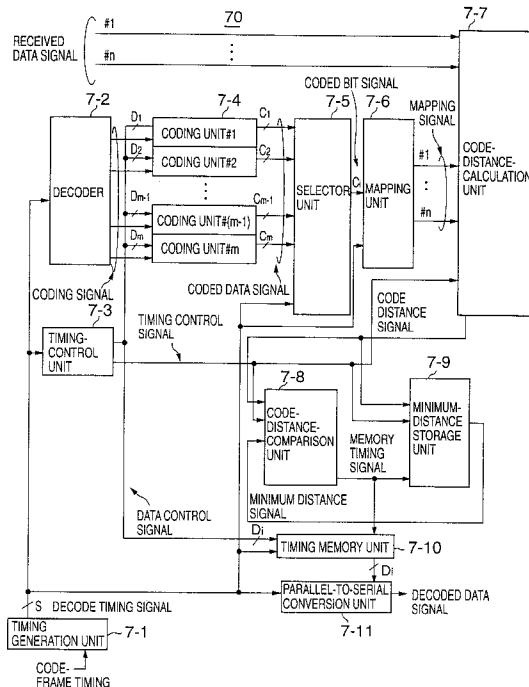(74) *Attorney, Agent, or Firm*—Katten Muchin Zavis Rosenman

(57) **ABSTRACT**

A method of providing unequal error protection in a multi-carrier transmission, includes the steps of coding data for a multi-carrier-symbol duration by a coding process of a given minimum code distance, the given minimum code distance being a minimum of a distance between two codes that is measured in multidimensional code space with N sub-carriers; and changing the minimum code distance for each multi-carrier-symbol duration by changing the coding process.

9 Claims, 19 Drawing Sheets

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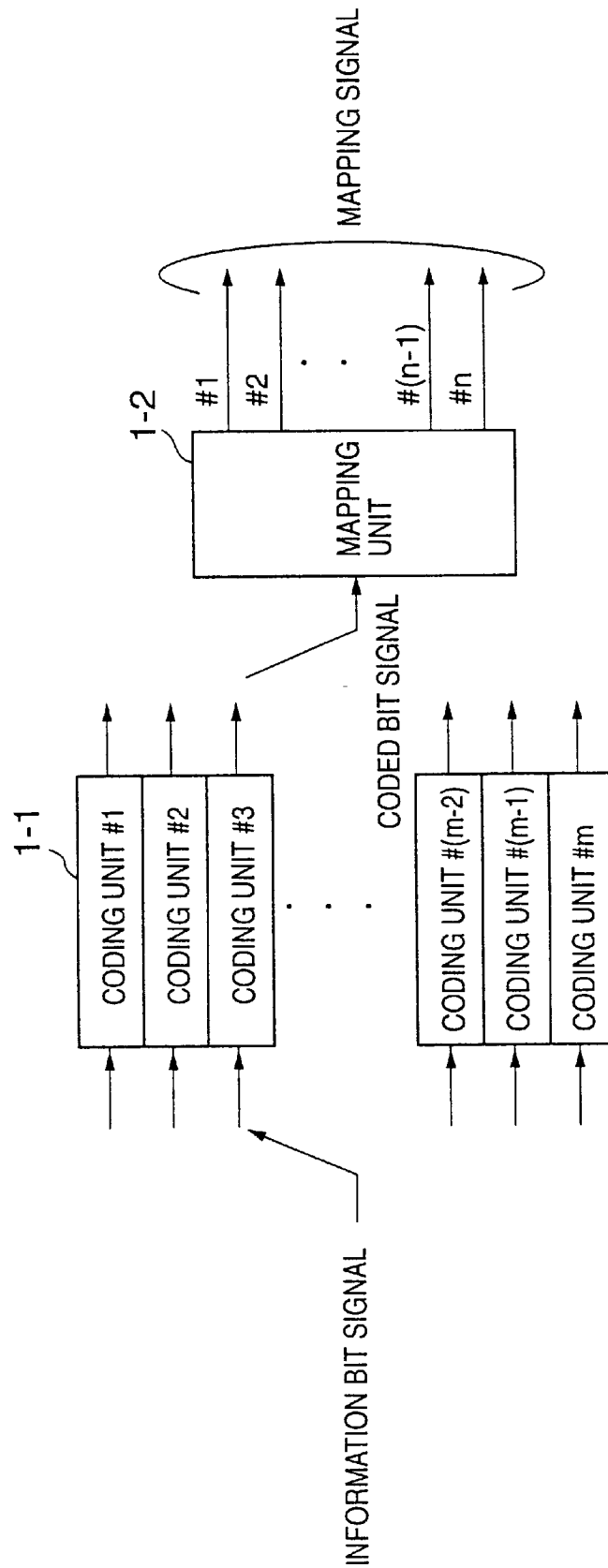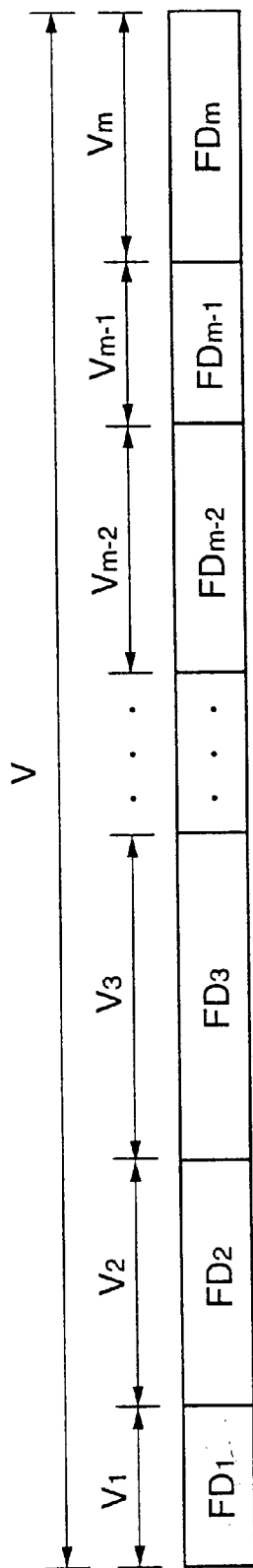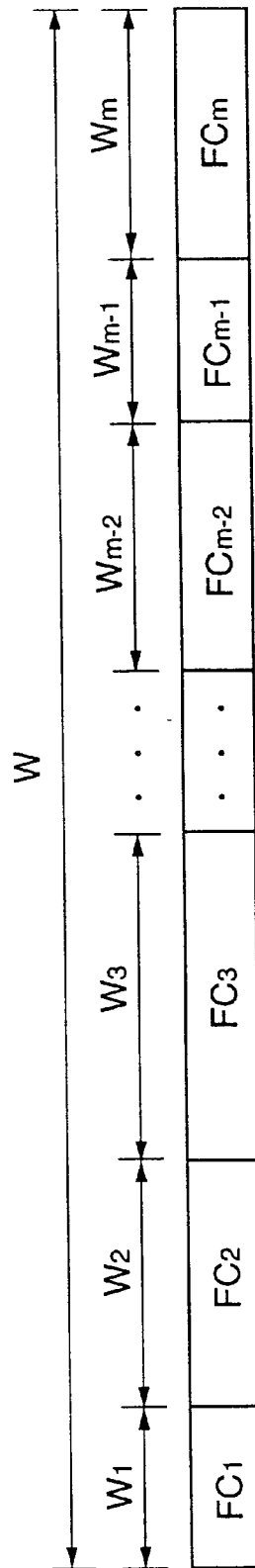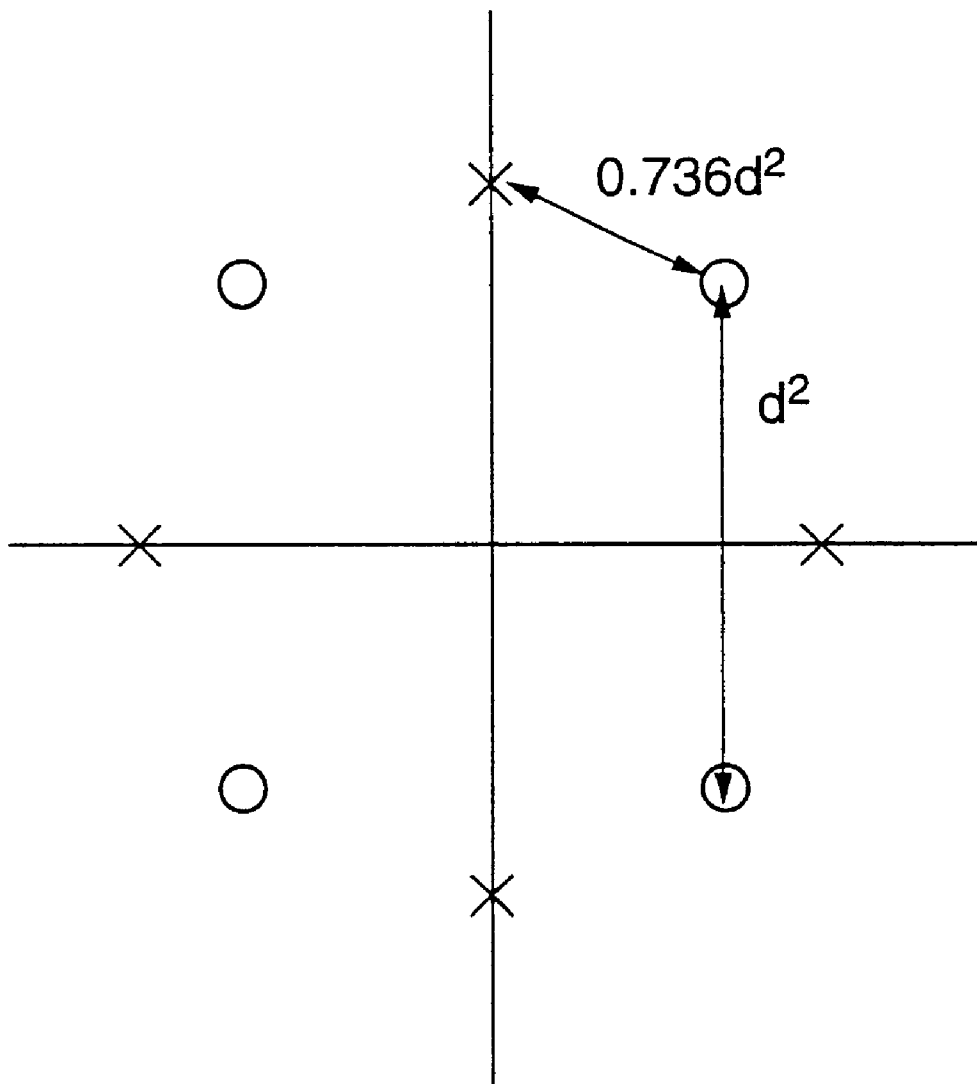
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FIG. 1

FIG. 2A

FDm	FDm-1	FDm-2	· · ·	FD3	FD2	FD1

V_m V_{m-1} V_{m-2} V_3 V_2 V_1

V

FIG. 2B

FCm	FCm-1	FCm-2	· · ·	FC3	FC2	FC1

W_m W_{m-1} W_{m-2} W_3 W_2 W_1

W

FIG. 3

$0.736d^2$

d^2

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