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

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(52) **U.S. Cl.** **714/774**; 714/790
(58) **Field of Search** 714/774, 790, 714/751

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(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
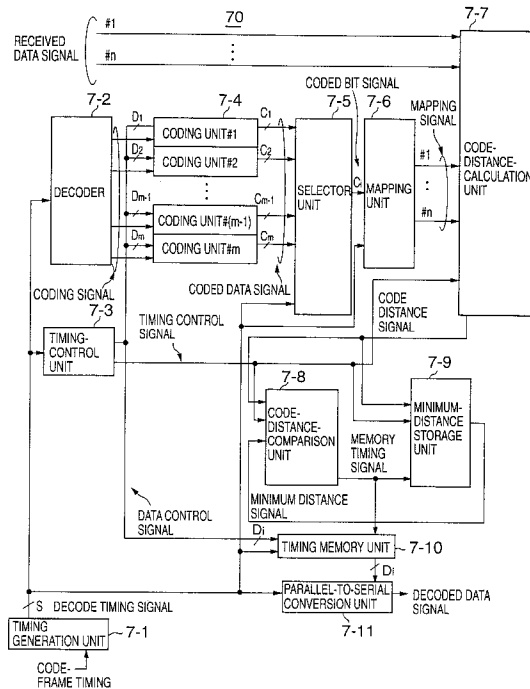
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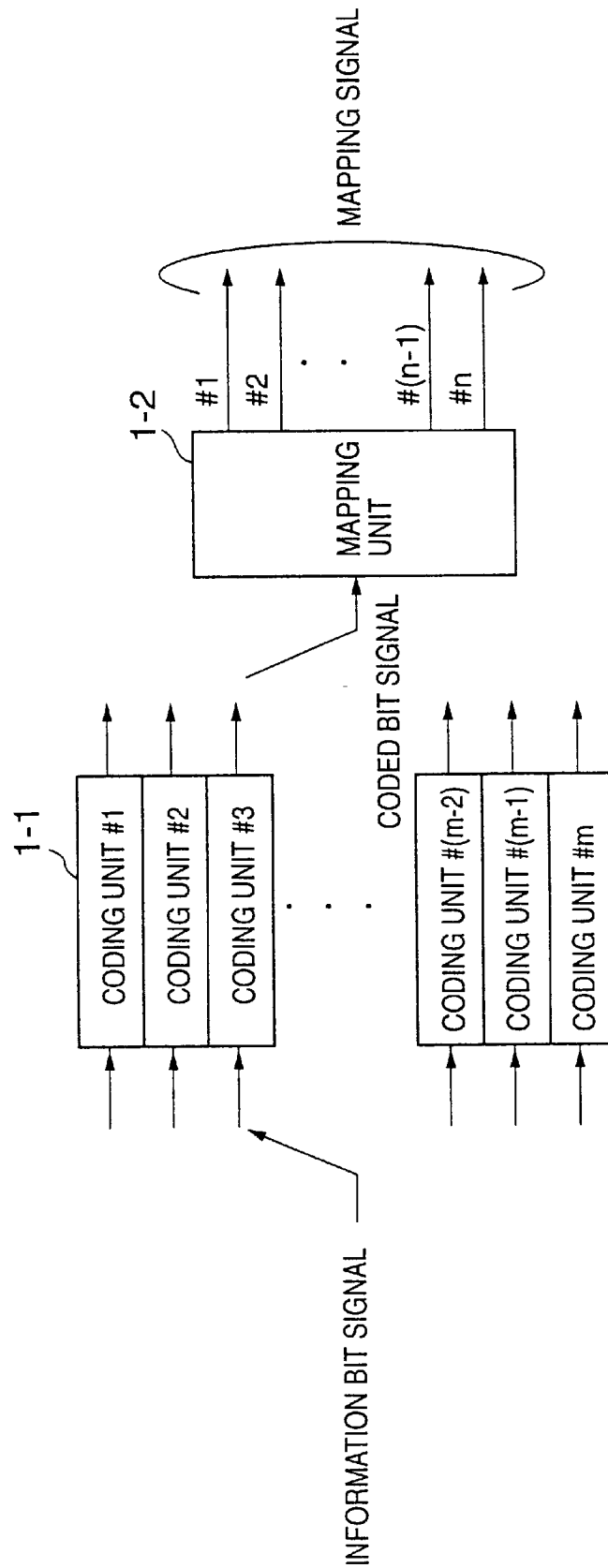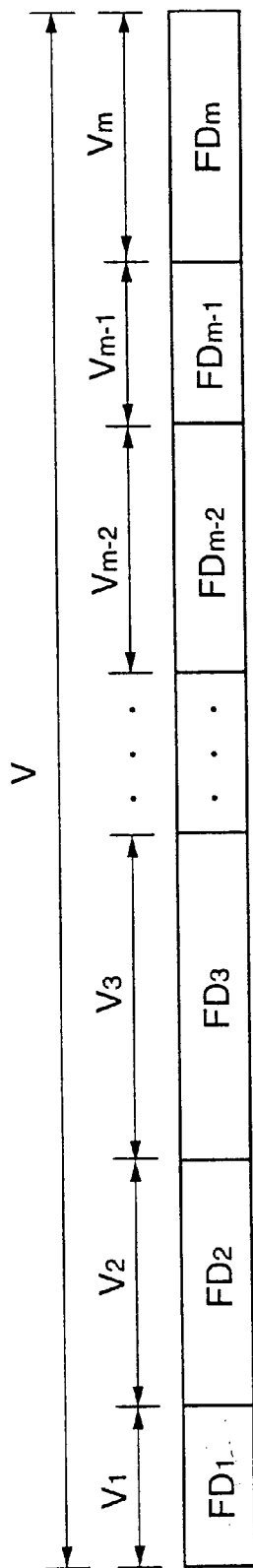
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FIG. 1

FIG. 2A

V

V_1	V_2	V_3	$\cdots$	V_{m-2}	V_{m-1}	V_m
FD_1	FD_2	FD_3	$\cdots$	FD_{m-2}	FD_{m-1}	FD_m

FIG. 2B

W

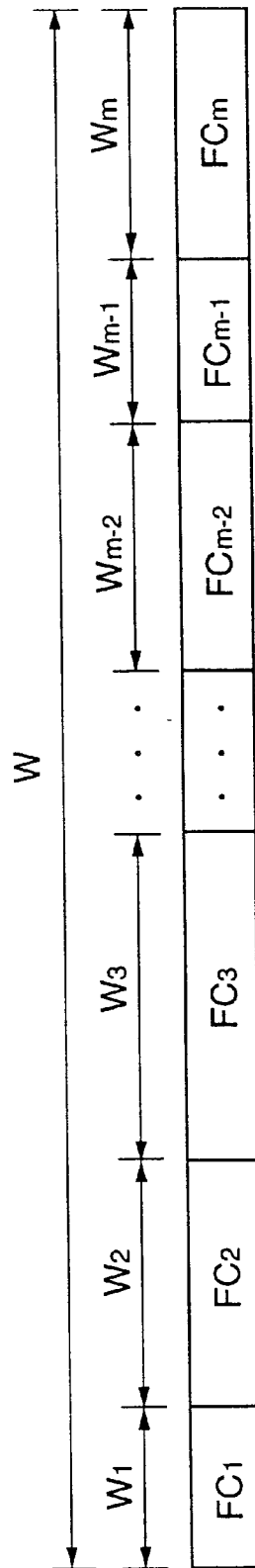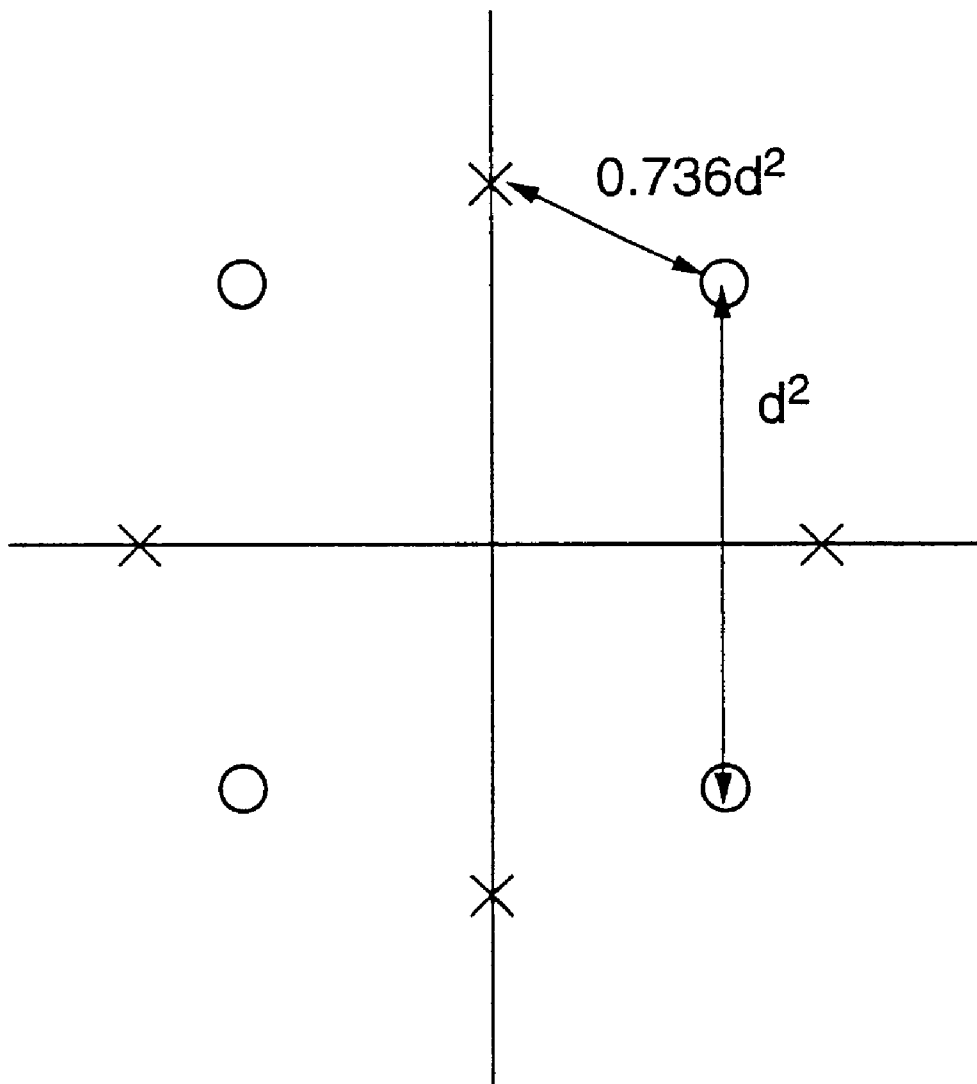| W_1	W_2	W_3	$\cdots$	W_{m-2}	W_{m-1}	W_m
FC_1	FC_2	FC_3	$\cdots$	FC_{m-2}	FC_{m-1}	FC_m

FIG. 3

$0.736d^2$

d^2

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