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(54) Title: SEQUENTIAL NUMERICAL INFORMATION ENCODER AND DECODER

(57) Abstract

A method of encoding position information (10) for a group of recording units on a recording medium having plurality of primary groups, with each primary group having primary labels (40) and plurality of secondary groups, with each secondary group having M secondary labels (44). The primary labels (40) and secondary labels (44) are always in fixed sequence. The primary labels (40) and secondary labels (44) are combined such that for each position X, there is a unique combination of primary label and secondary label (11). Further, the value of Xth primary label (41) differs by the quotient of X/N from the value of corresponding secondary label of the secondary group (45) when the value of primary label is greater than or equal to the value of secondary label and the value of Xth primary label differs by M subtracted from the value of secondary label when the value of primary label is less than the value of secondary label.

10 POSITION INFORMATION DATA	11 POSITION INFORMATION CODE
0000	AMBER ALPHA
0001	BLUE BETA
0010	RED THETA
0011	GREEN DELTA
0100	YELLOW ALPHA
0101	AMBER BETA
0110	BLUE THETA
0111	RED DELTA
1000	GREEN ALPHA
1001	YELLOW BETA
1010	AMBER THETA
1011	BLUE DELTA
1100	RED ALPHA
1101	GREEN BETA
1110	YELLOW THETA
1111	AMBER DELTA

40 PRIMARY LABEL	41 VALUE	42 BINARY NUMBER
ALPHA	0	00
BETA	1	01
THETA	2	10
DELTA	3	11

44 SECONDARY LABEL	45 VALUE	46 BINARY NUMBER
AMBER	0	00
BLUE	1	01
RED	2	10
GREEN	3	11
YELLOW	4	100

50	51 INPUT	52 OUTPUT
	ALPHA	00
	BETA	01
	THETA	10
	DELTA	11
	AMBER	00
	BLUE	01
	RED	10
	GREEN	11
	YELLOW	100