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(12) (A)

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2004 10 28
(86) PCT/US2003/008252 (87) WO 2003/094356
(86) 2003 03 17 (87) 2003 11 13

(30) 10/134,300 2002 04 29 (US)
(71) (, 78735) 6501
(72) , , .
92656 8208 2
,
60067 157
(74)

:
(54) - -

DEM(14) - - 가 (10) , - (15)
, DEM(14)
가 . , 가 ADC(10)
4) . DEM(1

1
ADC, - - , , DEM

(A/D) A/D , A/D (dig
 (quantization noise) , 100% (harmonic distortion) (artifact
 s)가 (D/A) (negative feedback loop) (variability)
 , DEM(Dynamic element matching) . DEM , D/A {
 (calibration scheme) } ,
 A/D (Nyquist-based A/D conversion) .
 (noise floor)
 가 ,
 (resolution) A/D , , /
 (noise shaping strategies) , , (,
 가) DEM A/D
 ent) A/D 가 (stale) , A/D (curr
 lay) 가 (propagation de
 , A/D / (D/A) , (3 4) / ,
 D/A (8 16) , 가 A/D
 , () /
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 , -
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4

5 7

8

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가

가, 가

가

가 , 가 . , , , .

가 6 4 3 4 7 15 63

(10) , 1 . (11) 가 , (10) (X) (12) . (13) (Y) (13) , (15) (Y) (X) (11) , 가

(11) $\frac{1}{(15)}$ (10) (DEM; 14) . DEM(14) ,
 , DEM(14) 가
 . DEM(14) ,
 가 (Y)

2 DEM(14) . , -
4 , '3' , 가 '1'
, '3' , 3 . ,

, (21 24)
 , (22 23)
 (assortment)
 가 '3' 가
 DEM(14)
 3 , DEM(14)
 1
 가 7 가 가 , 7 5, 6 7
 4
 , DEM(14) 1(51) , '3' 3
 (51, 52 53) 6 , DEM(14) , DE
 M(14) 4(61) , '2' (61 62)
 7 , '4' , DEM(14) 6(71)
 3 (72, 73 74)
 , DEM(14)
 (thermometer code) DEM
 (barrel shifter; 34 38) 가 (33)
 (31) (32)
 0 0 2 1
 0 3
 0 (least significant bit) 1
 2
 , DAC
 가 (carry value)
 . 0 DAC
 가 1 DAC
 4 , DEM(14) , (42) (
) (41) 가
 (40)
 (43)
 가
 가 DAC
 (effective noise floor)

(signal dependent tones) 가

가 (39) (3). , DEM(14) , DEM(14) (iteration)

8 1 (80) (cycle marker) (81) , (pseudoran
dom) (82) { , 가
(84) 가 , 가

가 , DEM(14)
(90) 9
(91) (92) ,
(93) B
(94)

가 (95) , (96) , 가 A
A , 가 B
B (99) , 가 가 (98) B (97) ,
(101) (100)

uantizer)가 () (q
()

가 , 가
, DEM , (propagation delay)
가 , D/A

o-analog converters) (single-ended digital-t
가 (fully-differential digital-to-analog converters)

(57)

1.

- -
;

가 (operably) ;

- , - ;

- (dynamic element matching unit)

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가, 가

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(logical low)

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가

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(next-to-be-determined output information)

11.

가 - ;

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11 12. , ,

12 13. , 가 ,

13 14. , 가 , 가

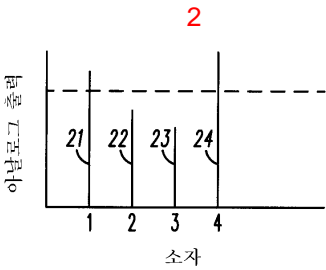
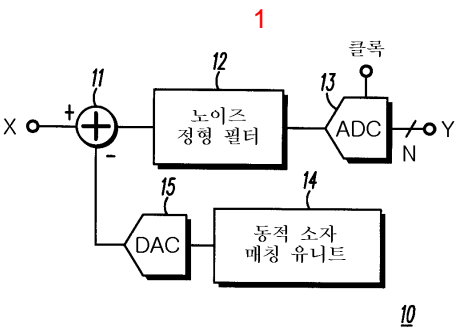
12 15. , 가 ,

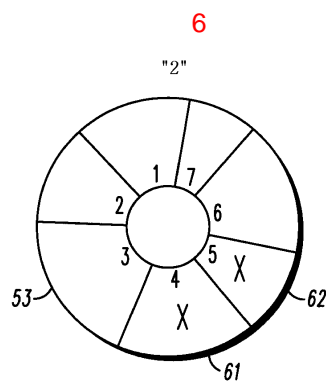
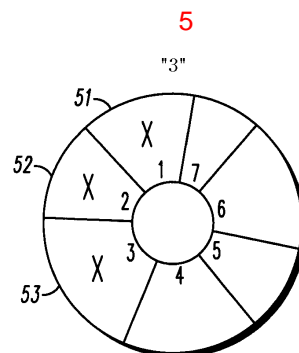
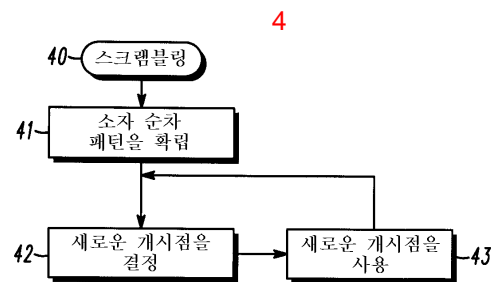
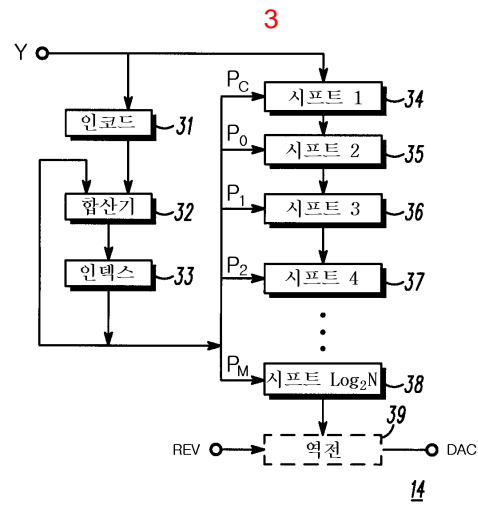
15 16. , 가 , 가

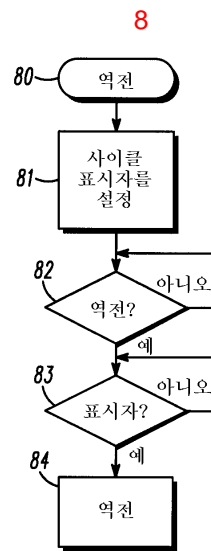
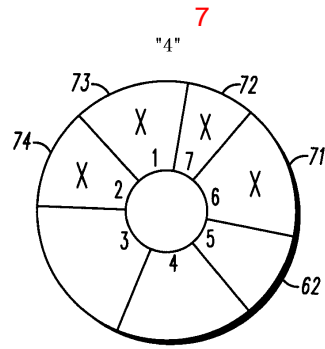
11 17. , , 가

11 18. , , 가

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cle) 2 (every other clock cy
21.
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random) - (pseudo-
23.
18 ,
가







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