

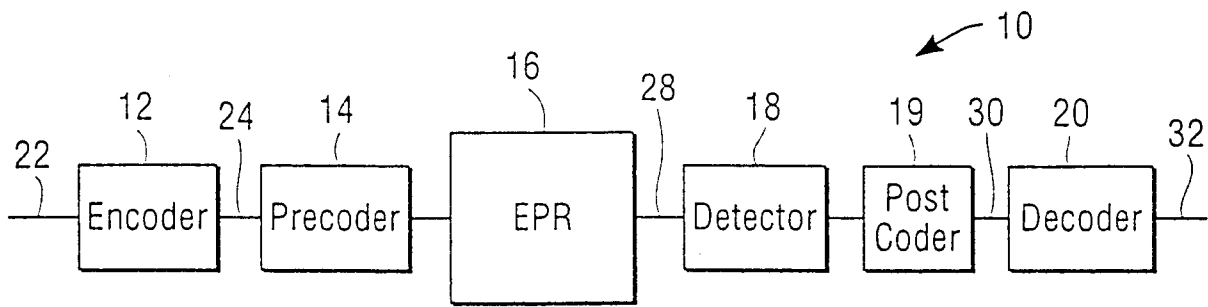


FIG. 1

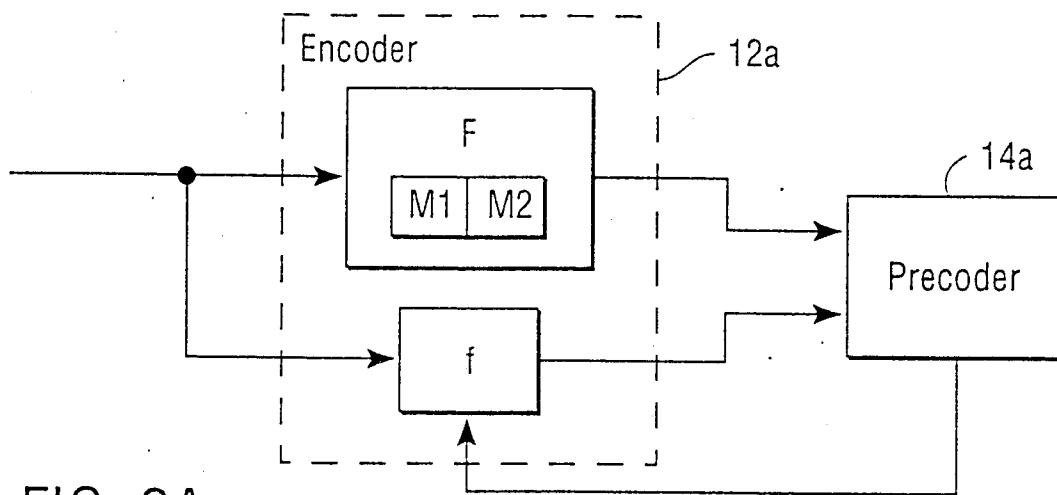


FIG. 2A

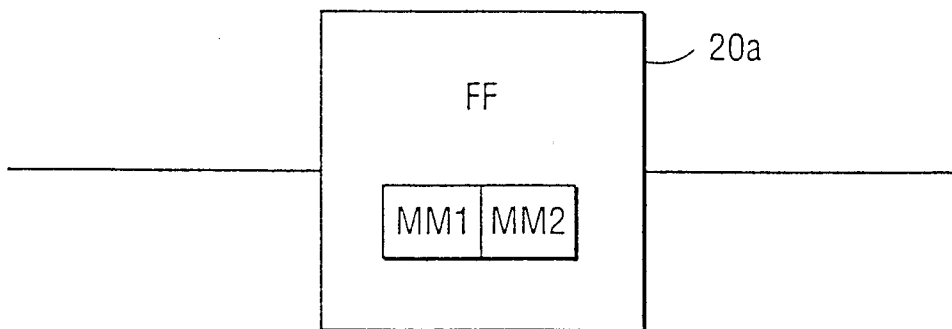


FIG. 2B

M1 maps 12 bits, $a=(a1\cdots a12)$, to 11 bits, $(b1\cdots b11)$, as follows:

		b1	b2	b3	b4	b5	b6	b7	b8	b9	b10	b11
1	G	a1	a2	a3	a4	a5	a6	a7	a8	a9	a10	a11
2	$B1 \cap R1' \cap R2' \cap R3'$	a1	1	1	a2	a4	a6	a8	a9	a10	a11	a12
3	$B1 \cap R1$	1	0	1	0	a1	a4	a8	a9	a10	a11	a12
4	$B1 \cap R2$	1	0	1	1	0	a4	a8	a9	a10	a11	a12
5	$B1 \cap R3$	1	0	1	1	1	a1	a8	a9	a10	a11	a12
6	B2	0	1	0	a2	a4	a6	a8	a9	a10	a11	a12
7	$B3 \cap \{a2=0\}$	1	0	0	1	0	a1	a8	a9	a10	a11	a12
8	$B3 \cap \{a2=1\} \cap \{a1=a7=a8=a9=a10=a11=a12=0\}'$	1	0	0	0	1	a1	a8	a9	a10	a11	a12
9	$B3 \cap \{a2=1\} \cap \{a1=a7=a8=a9=a10=a11=a12=0\}$	1	1	0	0	1	0	1	a9	a10	a11	a12
10	$B4 \cap \{a1+a2+a3+a4+a5+a6+a7+a8=1\}$	1	1	0	1	m1	m2	m3	a9	a10	a11	a12
11	$B4 \cap \{a1+a2+a3+a4+a5+a6+a7+a8=0\}$	1	1	0	0	0	1	1	a9	a10	a11	a12

Where $(m1\ m2\ m3)$ is

$$m1 = a2 \vee a4 \vee a6 \vee a8$$

$$m2 = a3 \vee a4 \vee a7 \vee a8$$

$$m3 = a5 \vee a6 \vee a7 \vee a8$$

FIG. 3

M2 maps 12 bits, $a=(a1\text{---}a12)$, to 10 bits, $(v1\text{---}v10)$, as follows:

		v1	v2	v3	v4	v5	v6	v7	v8	v9	v10
1	GG	a3	a4	a5	a6	a7	a8	a9	a10	a11	a12
2	$D1 \cap \{a1=0, a2=1, a3=a5, a7=a9\}'$	a1	0	1	a2	a3	a5	a7	a9	a11	a12
3	$D1 \cap \{a1=0, a2=1, a3=a5, a7=a9\}$	1	0	0	0	1	1	a3	a7	a11	a12
4	$D2 \cap T1$	1	0	0	1	0	1	a3	a7	a11	a12
5	$D2 \cap T2 \cap T3 \cap T1'$	0	0	0	0	1	0	1	a1	a7	a12
6	$D2 \cap T2 \cap T3' \cap T1'$	1	0	0	1	1	a1	a3	a7	a11	a12
7	$D2 \cap T4 \cap T1' \cap T2'$	1	0	0	0	1	0	0	1	1	a12
8	$D2 \cap T1' \cap T2' \cap T4'$	a1	1	1	a2	a3	a5	a7	a9	a11	a12
9	$D3 \cap \{a1=0, a2=0, a11=0, a12=0\}'$	0	0	0	1	0	1	a1	a2	a11	a12
10	$D3 \cap \{a1=0, a2=0, a11=0, a12=0\}$	1	1	0	1	1	0	1	1	1	0
11	$D4 \cap \{a1+\dots+a12=0\}$	0	0	0	1	1	0	1	1	0	1
12	$D4 \cap \{a1+\dots+a12=1 \text{ or } 2\}$	c1	1	0	c2	c3	c4	w1	w2	w3	w4
13	$D5 \cap \{a1=0, a2=a3\}$	1	0	0	1	0	0	0	a2	a4	a5
14	$D5 \cap \{a1=a2, a3=a4\} \cap \{a1=0, a2=a3\}'$	1	0	0	1	0	0	1	a1	a4	a5
15	$D5 \cap \{a1=a2, a3=a4\}' \cap \{a1=0, a2=a3\}'$	0	0	0	0	0	a1	a2	a3	a4	a5

$$\begin{aligned}
 h1 &= a1 \\
 h2 &= a1' \wedge a2 \\
 h3 &= a1' \wedge a2' \wedge a3 \\
 h4 &= a1' \wedge a2' \wedge a3' \wedge a4 \\
 h5 &= a1' \wedge a2' \wedge a3' \wedge a4' \wedge a5 \\
 h6 &= a1' \wedge a2' \wedge a3' \wedge a4' \wedge a5' \wedge a6 \\
 h7 &= a1' \wedge a2' \wedge a3' \wedge a4' \wedge a5' \wedge a6' \wedge a7 \\
 h8 &= a1' \wedge a2' \wedge a3' \wedge a4' \wedge a5' \wedge a6' \wedge a7' \wedge a8 \\
 h9 &= a1' \wedge a2' \wedge a3' \wedge a4' \wedge a5' \wedge a6' \wedge a7' \wedge a8' \wedge a9 \\
 h10 &= a1' \wedge a2' \wedge a3' \wedge a4' \wedge a5' \wedge a6' \wedge a7' \wedge a8' \wedge a9' \wedge a10 \\
 h11 &= a1' \wedge a2' \wedge a3' \wedge a4' \wedge a5' \wedge a6' \wedge a7' \wedge a8' \wedge a9' \wedge a10' \wedge a11 \\
 h12 &= a1' \wedge a2' \wedge a3' \wedge a4' \wedge a5' \wedge a6' \wedge a7' \wedge a8' \wedge a9' \wedge a10' \wedge a11' \wedge a12
 \end{aligned}$$

FIG. 4A

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cc1=h1 V h3 V h5 V h7 V h9 V h11
cc2=h2 V h3 V h6 V h7 V h10 V h11
cc3=h4 V h5 V h6 V h7 V h12
cc4=h8 V h9 V h10 V h11 V h12

c1c2c3c4 = (cc1 cc2 cc3 cc4)
if c1 c2 c3 c4 = 1110 then let c1c2c3c4 = 1111
if c1 c2 c3 c4 = 1000 then let c1c2c3c4 = 0111

hh1 = a12
hh2 = a11 ^ a12'
hh3 = a10 ^ a11' ^ a12'
hh4 = a9 ^ a10' ^ a11' ^ a12'
hh5 = a8 ^ a9' ^ a10' ^ a11' ^ a12'
hh6 = a7 ^ a8' ^ a9' ^ a10' ^ a11' ^ a12'
hh7 = a6 ^ a7' ^ a8' ^ a9' ^ a10' ^ a11' ^ a12'
hh8 = a5 ^ a6' ^ a7' ^ a8' ^ a9' ^ a10' ^ a11' ^ a12'
hh9 = a4 ^ a5' ^ a6' ^ a7' ^ a8' ^ a9' ^ a10' ^ a11' ^ a12'
hh10 = a3 ^ a4' ^ a5' ^ a6' ^ a7' ^ a8' ^ a9' ^ a10' ^ a11' ^ a12'
hh11 = a2 ^ a3' ^ a4' ^ a5' ^ a6' ^ a7' ^ a8' ^ a9' ^ a10' ^ a11' ^ a12'
hh12 = a1 ^ a2' ^ a3' ^ a4' ^ a5' ^ a6' ^ a7' ^ a8' ^ a9' ^ a10' ^ a11' ^ a12'

w4 = hh1 V hh3 V hh5 V hh7 V hh9 V hh11
w3 = hh2 V hh3 V hh6 V hh7 V hh10 V hh11
w2 = hh4 V hh5 V hh6 V hh7 V hh12
w1 = hh8 V hh9 V hh10 V hh11 V hh12

```

FIG. 4B

MAP MM1

MM1 maps 11 bits, (b1---b11), to 12 bits, a=(a1---a12), as follows:

	a1	a2	a3	a4	a5	a6	a7	a8	a9	a10	a11	a12
1	b1	b4	b4	b5	b5	b6	b6	b7	b8	b9	b10	b11
2	b5	b6	b6	b6	b6	b7	b7	b7	b8	b9	b10	b11
3	1	1	1	b6	b6	b6	b6	b7	b8	b9	b10	b11
4	b6	1	1	1	1	1	1	b7	b8	b9	b10	b11
5	b4	b4	b5	b5	b6	b6	b7	b7	b8	b9	b10	b11
6	b6	0	0	0	0	0	1	b7	b8	b9	b10	b11
7	b6	1	1	1	1	1	0	b7	b8	b9	b10	b11
8	0	1	1	1	1	1	0	0	b8	b9	b10	b11
9	0	0	0	0	0	0	0	0	b8	b9	b10	b11
10	11	12	13	14	15	16	17	18	b8	b9	b10	b11

where (11 ...18) is

$11 = b7' \wedge b6' \wedge b5'$
 $12 = b7' \wedge b6' \wedge b5$
 $13 = b7' \wedge b6 \wedge b5'$
 $14 = b7' \wedge b6 \wedge b5$
 $15 = b7 \wedge b6' \wedge b5'$
 $16 = b7 \wedge b6' \wedge b5$
 $17 = b7 \wedge b6 \wedge b5'$
 $18 = b7 \wedge b6 \wedge b5$

FIG. 5

MAP MM2
MM2 maps 10 bits, (v1---v10), to 12 bits, a=(a1---a12), as follows:

		a1	a2	a3	a4	a5	a6	a7	a8	a9	a10	a11	a12
1	$v2=0, v3=1$	v1	v4	v5	v6	v7	v8	v9	v10	v11	v12		
2	$v1=1, v2=0, v3=0, v4=0, v5=1, v6=1$	0	1	v7	v8	v9	v10	v11	v12				
3	$v1=1, v2=0, v3=0, v4=1, v5=1, v6=1$	1	1	v7	v8	v9	v10	v11	v12				
4	$v1=0, v2=0, v3=0, v4=0, v5=1$	v8	v7	v6	v5	v4	v3	v2	v1				
5	$v1=1, v2=0, v3=0, v4=0, v5=1$	v6	v7	v8	v9	v10	v11	v12					
6	$v1=1, v2=0, v3=0, v4=0, v5=1, v6=0$	0	1	1	1	1	1	1	1	1	1	1	1
7	$v2=1, v3=1$	v1	v4	v5	v6	v7	v8	v9	v10	v11	v12		
8	$v1=0, v2=0, v3=0, v4=1, v5=0$	v7	v8	v9	v10	v11	v12						
9	$v1=1, v2=1, v3=0, v4=1, v5=1, v6=0$	0	0	0	1	1	1	1	1	1	1	1	1
10	$v1=0, v2=0, v3=0, v4=1, v5=1$	0	0	0	0	0	0	0	0	0	0	0	0
11	$v2=1, v3=0 \& (v1v4v5v6 \neq 1110)$	r1	r2	r3	r4	r5	r6	r7	r8	r9	r10	r11	r12
12	$v1=1, v2=0, v3=0, v4=1, v5=0, v6=0, v7=0$	0	v8	v9	v10	v11	v12						
13	$v1=1, v2=0, v3=0, v4=1, v5=0, v6=0, v7=1$	v8	v9	v10	v11	v12							
14	$v1=0, v2=0, v3=0, v4=0, v5=0$	v6	v7	v8	v9	v10	v11	v12					

Let $p1p2p3p4 = v1v4v5v6$
 if $p1p2p3p4 = 1111$ then $p1p2p3p4=1110$
 if $p1p2p3p4 = 0111$ then $p1p2p3p4=1000$
 $w4w3w2w1 = v7v8v9v10$
 $q4q3q2q1 = (1101) - (\text{binary subtraction}) w4w3w2w1$
 $r1 = (P4' \wedge p3' \wedge p2' \wedge p1) \vee (q4' \wedge q3' \wedge q2' \wedge q1)$
 $r2 = (P4' \wedge p3' \wedge p2 \wedge p1') \vee (q4' \wedge q3' \wedge q2 \wedge q1')$
 $r3 = (P4' \wedge p3' \wedge p2 \wedge p1) \vee (q4' \wedge q3' \wedge q2 \wedge q1)$
 $r4 = (P4' \wedge p3 \wedge p2' \wedge p1') \vee (q4' \wedge q3 \wedge q2' \wedge q1')$
 $r5 = (P4' \wedge p3 \wedge p2' \wedge p1) \vee (q4' \wedge q3 \wedge q2' \wedge q1)$
 $r6 = (P4' \wedge p3 \wedge p2 \wedge p1') \vee (q4' \wedge q3 \wedge q2 \wedge q1')$
 $r7 = (P4' \wedge p3 \wedge p2 \wedge p1) \vee (q4' \wedge q3 \wedge q2 \wedge q1)$
 $r8 = (P4 \wedge p3' \wedge p2' \wedge p1') \vee (q4 \wedge q3' \wedge q2' \wedge q1')$
 $r9 = (P4 \wedge p3' \wedge p2' \wedge p1) \vee (q4 \wedge q3' \wedge q2' \wedge q1)$
 $r10 = (P4 \wedge p3' \wedge p2 \wedge p1') \vee (q4 \wedge q3' \wedge q2 \wedge q1')$
 $r11 = (P4 \wedge p3' \wedge p2 \wedge p1) \vee (q4 \wedge q3' \wedge q2 \wedge q1)$
 $r12 = (P4 \wedge p3 \wedge p2' \wedge p1') \vee (q4 \wedge q3 \wedge q2' \wedge q1')$

FIG. 6

The following table describes map F.

Let $A1=(a_11 \ a_12....a_112)$ and $A2=(a_21 \ a_22....a_212)$.

	$b_11 \ b_12...b_111$	b_112	$e1$	b_21	b_22	$b_23 \ b_24...b_212$
A1 in G & A2 in GG	$M1(A1)$	a_112	1	a_21	a_22	$M2(A2)$
A1 in B & A2 in GG	$M1(A1)$	1	0	a_21	a_22	$M2(A2)$
A1 in G & A2 in D	$M1(A1)$	0	0	1	a_112	$M2(A2)$
A1 in B & A2 in D	$M1(A1)$	0	0	0	1	$M2(A2)$

FIG. 7

The following table describes map FF.

	$a_11 \ a_12....a_110$	a_111	a_112	a_21	a_22	$a_23 \ a_24...a_212$
$e1=1$	$b_11 \ b_12....b_110$	b_111	b_112	b_21	b_22	$b_23 \ b_24...b_212$
$b_112=1 \ e1=0$	$w_11 \ w_12....w_110$	w_111	w_112	b_21	b_22	$b_23 \ b_24...b_212$
$b_112=0 \ e1=0 \ b_21=1$	$b_11 \ b_12....b_110$	b_111	b_22	w_21	w_22	$w_23 \ w_24...w_212$
$b_112=0 \ e1=0 \ b_21=0$	$w_11 \ w_12....w_110$	w_111	w_112	w_21	w_22	$w_23 \ w_24...w_212$

where

$$(w_11 \ w_12....w_112) = MM1(b_11 \ b_12....b_111)$$

$$(w_21 \ w_22....w_212) = MM2(b_23 \ b_24....b_212).$$

FIG. 8

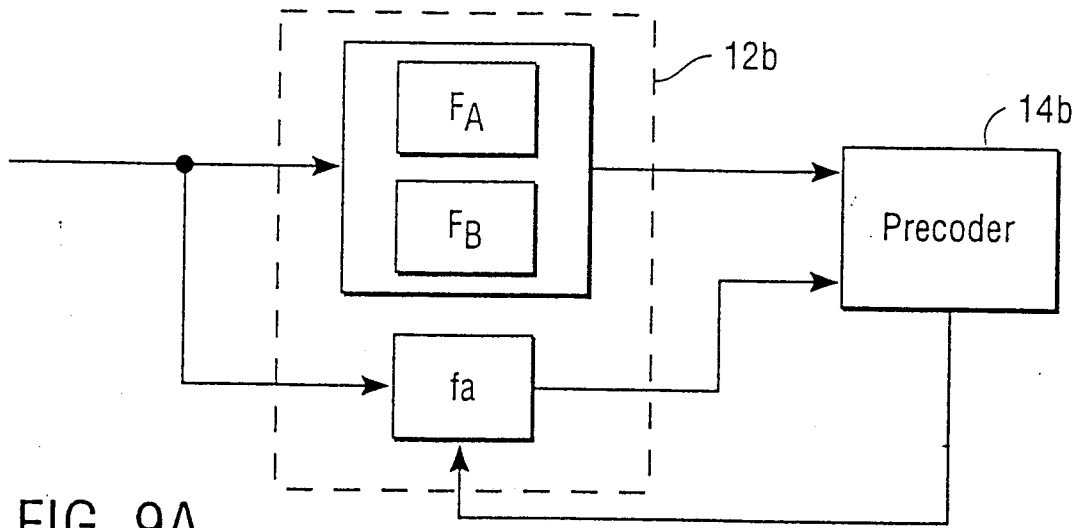


FIG. 9A

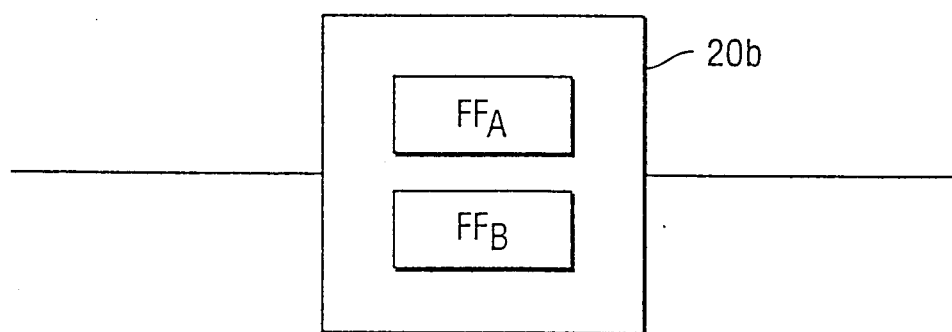


FIG. 9B

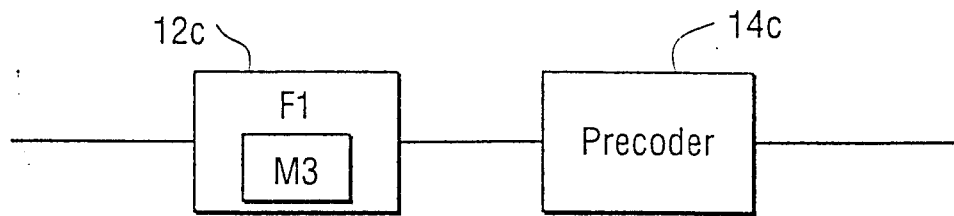


FIG. 10A

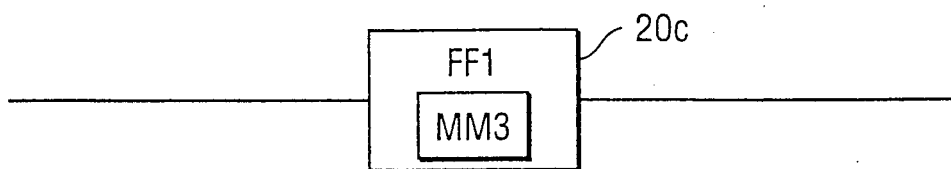


FIG. 10B

M3 maps 12 bits, $a=(a1\text{---}a12)$, to 10 bits, $(b1\text{---}b10)$, as follows:

		b1	b2	b3	b4	b5	b6	b7	b8	b9	b10
1	G	a1	a2	a3	a4	a5	a6	a7	a8	a9	a10
2	$B1 \cap \{a10=a11\}$	a1	a2	0	1	0	a4	a6	a8	a10	a12
3	$B1 \cap \{a10 \neq a11\} \cap \{a2=0, a4=a6\}'$	a1	a2	0	1	1	a4	a6	a8	a10	a12
4	$B1 \cap \{a10 \neq a11\} \cap \{a2=0, a4=a6\}$	1	0	1	0	0	a4	a1	a8	a10	a12
5	$B2 \cap \{a11=a12\} \cap \{a3=1, a5=a7\}'$	a1	a2	0	0	1	a3	a5	a7	a9	a11
6	$B2 \cap \{a11 \neq a12\}$	a1	a2	1	0	1	a3	a5	a7	a9	a11
7	$B2 \cap \{a11=a12\} \cap \{a3=1, a5=a7\}$	a1	1	0	0	0	1	a5	a2	a9	a11
8	B3	a1	a2	1	1	1	1	0	1	a11	a12
9	$B4 \cap \{a1+\dots+a8 \geq 1\}$	m1	m2	1	1	m3	m4	m5	m6	m7	m8
10	$B4 \cap \{a1+\dots+a8 \geq 1\}'$	a9	0	1	1	1	0	0	a10	a11	a12
11	B5	0	a7'	1	0	0	a8	a9	a10	a11	a12

Where $(m1\text{---}m8)$ is defined below.

$$\begin{aligned}
 hh1 &= a1 \\
 hh2 &= a1' \wedge a2 \\
 hh3 &= a1' \wedge a2' \wedge a3 \\
 hh4 &= a1' \wedge a2' \wedge a3' \wedge a4 \\
 hh5 &= a1' \wedge a2' \wedge a3' \wedge a4' \wedge a5 \\
 hh6 &= a1' \wedge a2' \wedge a3' \wedge a4' \wedge a5' \wedge a6 \\
 hh7 &= a1' \wedge a2' \wedge a3' \wedge a4' \wedge a5' \wedge a6' \wedge a7 \\
 hh8 &= a1' \wedge a2' \wedge a3' \wedge a4' \wedge a5' \wedge a6' \wedge a7' \wedge a8
 \end{aligned}$$

$$\begin{aligned}
 u1 &= hh2 \vee hh4 \vee hh6 \vee hh8 \\
 u2 &= hh3 \vee hh4 \vee hh7 \vee hh8 \\
 u3 &= hh5 \vee hh6 \vee hh7 \vee hh8
 \end{aligned}$$

FIG. 11A

$h1 = a12$
 $h2 = a11 \wedge a12'$
 $h3 = a10 \wedge a11' \wedge a12'$
 $h4 = a9 \wedge a10' \wedge a11' \wedge a12'$
 $h5 = a8 \wedge a9' \wedge a10' \wedge a11' \wedge a12'$
 $h6 = a7 \wedge a8' \wedge a9' \wedge a10' \wedge a11' \wedge a12'$
 $h7 = a6 \wedge a7' \wedge a8' \wedge a9' \wedge a10' \wedge a11' \wedge a12'$
 $h8 = a5 \wedge a6' \wedge a7' \wedge a8' \wedge a9' \wedge a10' \wedge a11' \wedge a12'$
 $h9 = a4 \wedge a5' \wedge a6' \wedge a7' \wedge a8' \wedge a9' \wedge a10' \wedge a11' \wedge a12'$
 $h10 = a3 \wedge a4' \wedge a5' \wedge a6' \wedge a7' \wedge a8' \wedge a9' \wedge a10' \wedge a11' \wedge a12'$
 $h11 = a2 \wedge a3' \wedge a4' \wedge a5' \wedge a6' \wedge a7' \wedge a8' \wedge a9' \wedge a10' \wedge a11' \wedge a12'$
 $h12 = a1 \wedge a2' \wedge a3' \wedge a4' \wedge a5' \wedge a6' \wedge a7' \wedge a8' \wedge a9' \wedge a10' \wedge a11' \wedge a12'$
 $k1 = h1 \vee h3 \vee h5 \vee h7 \vee h9 \vee h11$
 $k2 = h2 \vee h3 \vee h6 \vee h7 \vee h10 \vee h11$
 $k3 = h4 \vee h5 \vee h6 \vee h7 \vee h12$
 $k4 = h8 \vee h9 \vee h10 \vee h11 \vee h12$
 if $\{u1=0 \text{ AND } k3=k4\}$ (m1 m2 m3 m4 m5 m6 m7 m8) = (u3 u2 0 u1 k4 k3 k2 k1)
 if $\{u1=0 \text{ AND } k3=k4\}$ (m1 m2 m3 m4 m5 m6 m7 m8) = (u3 u2 1 0 1 k3 k2 k1)

FIG. 11B

MAP MM

MM maps 10 bits, (b1---b10), to 12 bits, a=(a1---a12), as follows:

	a1	a2	a3	a4	a5	a6	a7	a8	a9	a10	a11	a12
1	b1	b2	b2	b6	b6	b7	b7	b8	b8	b9	b9	b10
2	b1	b2	b2	b6	b6	b7	b7	b8	b8	b9	b9'	b10
3	b7	0	0	b6	b6	b6	b6	b8	b8	b9	b9'	b10
4	0	0	0	0	0	0	b2'	b6	b7	b8	b9	b10
5	b1	b2	b6	b6	b7	b7	b8	b8	b9	b9	b10	b10
6	b1	b2	b6	b6	b7	b7	b8	b8	b9	b9	b10	b10'
7	b1	b8	1	1	b7	b7	b7	b7	b9	b9	b10	b10
8	t1	t2	t3	t4	t5	t6	t7	t8	t9	t10	t11	t12
9	tt1	tt2	tt3	tt4	tt5	tt6	tt7	tt8	tt9	tt10	tt11	tt12
10	0	0	0	0	0	0	0	0	b1	b8	b9	b10
11	b1	b2	b2'	b2'	b2'	b2'	b2'	b2'	b2'	b2	b9	b10

Where

bb=b7

$$\begin{aligned}
 t1 &= (b1' \wedge b2' \wedge b6') \vee (bb \wedge b8 \wedge b9' \wedge b10') \\
 t2 &= (b1' \wedge b2' \wedge b6) \vee (bb \wedge b8' \wedge b9 \wedge b10) \\
 t3 &= (b1' \wedge b2 \wedge b6') \vee (bb \wedge b8' \wedge b9 \wedge b10') \\
 t4 &= (b1' \wedge b2 \wedge b6) \vee (bb \wedge b8' \wedge b9' \wedge b10) \\
 t5 &= (b1 \wedge b2' \wedge b6') \vee (bb \wedge b8' \wedge b9' \wedge b10') \\
 t6 &= (b1 \wedge b2' \wedge b6) \vee (bb' \wedge b8 \wedge b9 \wedge b10) \\
 t7 &= (b1 \wedge b2 \wedge b6') \vee (bb' \wedge b8 \wedge b9 \wedge b10') \\
 t8 &= (b1 \wedge b2 \wedge b6) \vee (bb' \wedge b8 \wedge b9' \wedge b10) \\
 t9 &= (bb' \wedge b8 \wedge b9' \wedge b10') \\
 t10 &= (bb' \wedge b8' \wedge b9 \wedge b10) \\
 t11 &= (bb' \wedge b8' \wedge b9 \wedge b10') \\
 t12 &= (bb' \wedge b8' \wedge b9' \wedge b10)
 \end{aligned}$$

FIG. 12A

$cc=b8$
 $tt1 = (b1' \wedge b2' \wedge b6') \vee (cc \wedge b8 \wedge b9' \wedge b10')$
 $tt2 = (b1' \wedge b2' \wedge b6) \vee (cc \wedge b8' \wedge b9 \wedge b10)$
 $tt3 = (b1' \wedge b2 \wedge b6') \vee (cc \wedge b8' \wedge b9 \wedge b10')$
 $tt4 = (b1' \wedge b2 \wedge b6) \vee (cc \wedge b8' \wedge b9' \wedge b10)$
 $tt5 = (b1 \wedge b2' \wedge b6') \vee (cc \wedge b8' \wedge b9' \wedge b10')$
 $tt6 = (b1 \wedge b2' \wedge b6) \vee (cc' \wedge b8 \wedge b9 \wedge b10)$
 $tt7 = (b1 \wedge b2 \wedge b6') \vee (cc' \wedge b8 \wedge b9 \wedge b10')$
 $tt8 = (b1 \wedge b2 \wedge b6) \vee (cc' \wedge b8 \wedge b9' \wedge b10)$
 $tt9 = (cc' \wedge b8 \wedge b9' \wedge b10')$
 $tt10 = (cc' \wedge b8' \wedge b9 \wedge b10)$
 $tt11 = (cc' \wedge b8' \wedge b9 \wedge b10')$
 $tt12 = (cc' \wedge b8' \wedge b9' \wedge b10)$

FIG. 12B

The following table describes map F. Let
 $A1=(a_11 \ a_12 \dots a_112)$ and $A2=(a_21 \ a_22 \dots a_212)$

	$b_11 \ b_12 \dots b_110$	b_111	b_112	$e1$	b_21	b_22	$b_23 \ b_24 \dots b_212$
$A1 \text{ in } G \wedge A2 \text{ in } G$	$M(A1)$	a_111	a_112	1	a_21	a_22	$R2(M(R1(A2)))$
$A1 \text{ in } B \wedge A2 \text{ in } G$	$M(A1)$	a_21	0	0	1	a_22	$R2(M(R1(A2)))$
$A1 \text{ in } G \wedge A2 \text{ in } B$	$M(A1)$	a_111	1	0	0	a_112	$R2(M(R1(A2)))$
$A1 \text{ in } B \wedge A2 \text{ in } B$	$M(A1)$	1	1	0	1	1	$R2(M(R1(A2)))$

Where maps $R1$ and $R2$, reverse the order of the coordinates:

$R1(A2)=R1(a_21 \ a_22 \dots a_212)=(a_212 \ a_211 \dots a_21)$, and

$R2(x1 \ x2 \dots x9 \ x10) = (x10 \ x9 \dots x2 \ x1)$.

$R1$ works on 12-bit vectors, while $R2$ works on 10-bit vectors.

FIG. 13

The following table describes map FF.

	$a_11 \ a_12 \dots a_110$	a_111	a_112	a_21	a_22	$a_23 \ a_24 \dots a_212$
$e1=1$	$b_11 \ b_12 \dots b_110$	b_111	b_112	b_21	b_22	$b_23 \ b_24 \dots b_212$
$e1=0 \ b_112b_21 = 01$	$q1 \ q2 \dots q10$	$q11$	$q12$	b_111	b_22	$b_23 \ b_24 \dots b_212$
$e1=0 \ b_112b_21 = 10$	$b_11 \ b_12 \dots b_110$	b_111	b_22	$p1$	$p2$	$p3p4 \dots p12$
$e1=0 \ b_112b_21 = 11$	$q1 \ q2 \dots q10$	$q11$	$q12$	$p1$	$p2$	$p3p4 \dots p12$

where

$q1q2 \dots q12 = MM(b_11 \ b_12 \dots b_110)$, and

$p1p2 \dots p12 = R1(MM(R2(b_23 \ b_24 \dots b_212)))$.

FIG. 14

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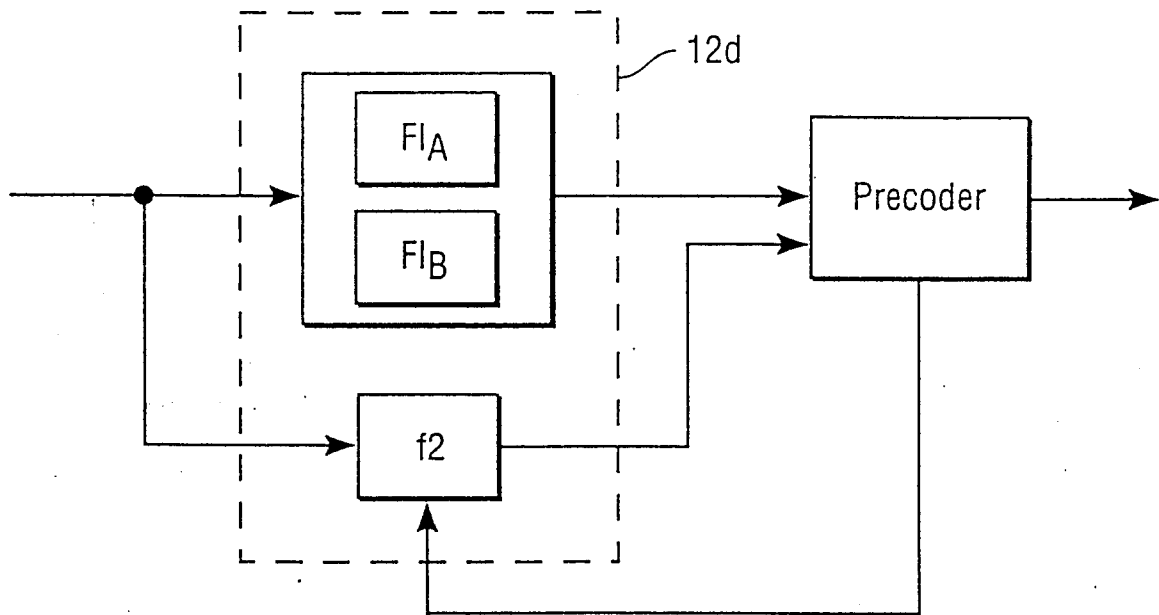


FIG. 15A

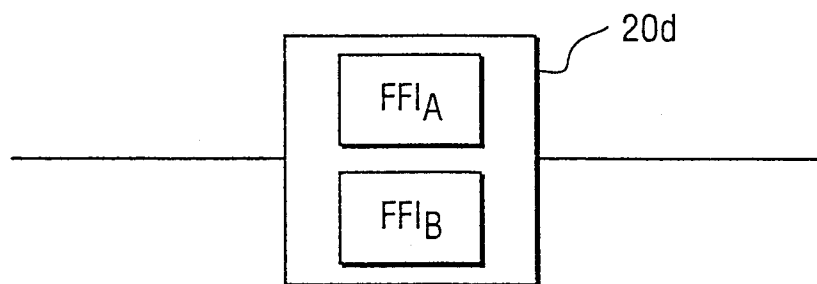


FIG. 15B