K-Maps of Decoders

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1 S1 Decoder

	00	01	11	10
00	0	0	1	0
01	0	0	1	0
11	0	X	X	X
10	0	0	X	X

Table 1: $S1Decoder(0)$

	00	01	11	10
00	1	1	0	1
01	1	1	0	1
11	1	X	X	X
10	0	1	X	X

Table 2: $S1Decoder(1)$

	00	01	11	10
00	0	0	1	0
01	0	0	1	0
11	0	X	X	X
10	0	0	X	X

Table 3: $S1Decoder(2)$

	00	01	11	10
00	0	0	0	0
01	0	0	1	1
11	0	X	X	X
10	1	0	X	X

Table 4: $S1Decoder(3)$

2 S2 Decoder

	00	01	11	10
00	1	1	X	1
01	1	1	X	X
11	1	X	X	X
10	X	1	X	X

Table 5: $S2Decoder(0)$

	00	01	11	10
00	?	1	X	?
01	1	1	X	X
11	1	X	X	X
10	X	0	X	X

Table 6: $S2Decoder(1)$

	00	01	11	10
00	0	0	X	0
01	0	0	X	X
11	0	X	X	X
10	X	0	X	X

Table 7: $S2Decoder(2)$

	00	01	11	10
00	0	0	X	0
01	0	0	X	X
11	0	X	X	X
10	X	1	X	X

Table 8: $S2Decoder(3)$

3 S3 Decoder

	00	01	11	10
00	0	0	X	0
01	1	0	X	X
11	1	X	X	X
10	X	X	X	X

Table 9: $S3Decoder(0)$

	00	01	11	10
00	0	0	X	0
01	1	1	X	X
11	?	X	X	X
10	X	X	X	X

Table 10: $S3Decoder(2)$

	00	01	11	10
00	1	1	X	1
01	1	1	X	X
11	?	X	X	X
10	X	X	X	X

Table 11: $S3Decoder(2)$

	00	01	11	10
00	0	0	X	0
01	1	0	X	X
11	0	X	X	X
10	X	X	X	X

Table 12: $S3Decoder(3)$

4 S6 Decoder

	00	01	11	10
00	X	X	X	X
01	X	1	?	X
11	X	X	X	X
10	X	X	X	X

Table 13: $S6Decoder(0)$

	00	01	11	10
00	X	X	X	X
01	X	0	1	X
11	X	X	X	X
10	X	X	X	X

Table 14: $S6Decoder(1)$

	00	01	11	10
00	X	X	X	X
01	X	0	1	X
11	X	X	X	X
10	X	X	X	X

Table 15: $S6Decoder(2)$

	00	01	11	10
00	X	X	X	X
01	X	0	?	X
11	X	X	X	X
10	X	X	X	X

Table 16: $S6Decoder(3)$

5 S12 Decoder

	00	01	11	10
00	X	X	X	X
01	X	X	X	1
11	X	X	X	X
10	X	X	X	X

Table 17: $S12Decoder(0)$

	00	01	11	10
00	X	X	X	X
01	X	X	X	$\overline{Z_{Rpe}}$
11	X	X	X	X
10	X	X	X	X

Table 18: $S12Decoder(1)$

	00	01	11	10
00	X	X	X	X
01	X	X	X	0
11	X	X	X	X
10	X	X	X	X

Table 19: $S12Decoder(2)$

	00	01	11	10
00	X	X	X	X
01	X	X	X	$\overline{Z_{Rpe}}$
11	X	X	X	X
10	X	X	X	X

Table 20: $S12Decoder(3)$

6 Alu Lower Mux

	00	01	11	10
00	X	X	X	X
01	X	X	0	X
11	1	X	X	X
10	X	X	X	X

Table 21: $AluLowerMux(0)$

7 R7 Mux Cntrl

	00	01	11	10
00	X	X	X	X
01	X	X	X	X
11	X	X	X	X
10	1	0	X	X

Table 22: $R7MuxCntrl$

8 A1 RF Mux Cntrl

	00	01	11	10
00	0	X	X	0
01	X	1	X	X
11	1	X	X	X
10	X	X	X	X

Table 23: $A1RFMuxCntrl$

9 T1 Mux Cntrl

	00	01	11	10
00	0	1	X	0
01	1	1	X	X
11	0	X	X	X
10	X	X	X	X

Table 24: $T1MuxCntrl(0)$

** '?' means it would be judged by the carry flag, zero flag or Z_{Rpe}.