The Opcode designed for the prototype processor and the processor developed from the development environment

Opcode	Function	Func_sel for ALU of the prototype processor	Flag that can be set
00000	AND	1	NZ
00001	XOR	3	NZ
00010	SUB	0	NZCV
00011	RSB	0	NZCV
00100	ADD	0	NZCV
00101	ADC	0	NZCV
00110	SBC	0	NZCV
00111	RBC	0	NZCV
01000	TST	1	NZ
01001	TEQ	3	NZ
01010	CMP	0	NZCV
01011	CMN	0	NZCV
01100	OR	2	NZ
01101	MOV	6	NZ
01110	BIC	1	NZ
01111	MVN	3	NZ
10000	LSL	5	
10001	LSR	4	
10010	ROL	5	
10011	ROR	4	
10100	ASL	5	
10101	ASR	4	
10110	RRX	4	C
10111	N/A		
11000	BL		
11001	RETRUN		
11010	STR		
11011	LDR		
11100	DOUT		
11101	END		
11110	N/A		

11111	N/A		

32-bit instructions design

Number of bits	4	1	5	1	4	4	4	9
	Cond	Register/ Immediate (0)	Opcode	Set/unchange	Rn	Rd	Rn2	Unused
	Cond	Register/ Immediate (1)	Opcode	Set/unchange	Rn	Rd	Immediate Value	
Number of bits	4	1	5	1	4	4	13	
Bit starting	31	27	26	21	20	16	12	

ALU FUNCTIONS

SEL	FUNCTION
0	Algorithmic
1	AND
2	OR
3	Xor
4	Right_Shift
5	Left_Shift
6	Direct_transfer
7	