

## Green card

Registros generales: R0-R12

Registro especial: LR

Cantidad de instrucciones 23

### Instrucciones de almacenamiento

**LDR:**

#### 1. LOADR

Tipo Instrucción (21 bits)	Opcode (5 bits)	rsd (4bits)	Offset/Inmediato (12bits) 4 LSB
LOADR	00000	0000	0000
LOADR rsd, rsn			

**STRB:**

#### 2. STOREB

Tipo Instrucción (21 bits)	Opcode (5 bits)	rsd (4bits)	rsn (12bits) 4 LSB
STOREB	00001	0000	0000
STOREB rsd, rsn			

#### 3. STOREBI

Tipo Instrucción (21 bits)	Opcode (5 bits)	rsd (4bits)	Inmediato (12bits) 4 LSB
STOREBI	10101	0000	0000

<b>STOREBI rsd, rsn</b>
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**LDRB:**

#### 4. LDRBI

Tipo Instrucción (21 bits)	Opcode (5 bits)	rsd (4bits)	Constante ascii/Inmediato (12bits) 4 LSB
<b>LDRBI</b>	<b>00010</b>	<b>0000</b>	<b>0000</b>
<b>LDRBI rsd, rsn</b>			

#### 5. LDRBR

Tipo Instrucción (21 bits)	Opcode (5 bits)	rsd (4bits)	rsn (12bits) 4 LSB
<b>LDRBR</b>	<b>10110</b>	<b>0000</b>	<b>0000</b>
<b>LDRBR rsd, rsn</b>			

### Instrucciones aritméticas

**ADD:**

#### 6. SM

Tipo Instrucción (21 bits)	Opcode (5 bits)	rsd (4 bits)	rsn (4 bits)	rsm (8 bits) 4 LSB
<b>SM</b>	<b>00011</b>	<b>0000</b>	<b>0000</b>	<b>0000</b>
<b>SM rsd, rsn, rsm</b>				

#### 7. SMI

Tipo Instrucción (21 bits)	Opcode (5 bits)	rsd (4 bits)	rsn (4 bits)	Inmediato (8 bits) 4 LSB
SMI	00100	0000	0000	0000
SMI rsd, rsn, rsm				

**SUB:**

#### 8. RT

Tipo Instrucción (21 bits)	Opcode (5 bits)	rsd (4 bits)	rsn (4 bits)	rsm (8 bits) 4 LSB
RT	00101	0000	0000	0000
RT rsd, rsn, rsm				

#### 9. RTI

Tipo Instrucción (21 bits)	Opcode (5 bits)	rsd (4 bits)	rsn (4 bits)	rsm (8 bits) 4 LSB
RTI	00110	0000	0000	0000
RTI rsd, rsn, rsm				

**MOV:**

#### 10. MOVE

Tipo Instrucción (21 bits)	Opcode (5 bits)	rsd (4 bits)	rsn (4 bits)	rsm (8 bits) 4 LSB
MOVE	00111	0000	0000	0000

**MOVE rsd, rsn, rsm**

#### 11. MOVEI

<b>Tipo Instrucción</b> (21 bits)	<b>Opcode</b> (5 bits)	<b>rsd</b> (4 bits)	<b>rsn</b> (4 bits)	<b>Inmediato</b> (8 bits) 4 LSB
<b>MOVEI</b>	<b>01000</b>	<b>0000</b>	<b>0000</b>	<b>0000</b>
<b>MOVEI rsd, rsn, rsm</b>				

**MUL:**

#### 12. MLT

<b>Tipo Instrucción</b> (21 bits)	<b>Opcode</b> (5 bits)	<b>rsd</b> (4 bits)	<b>rsn</b> (4 bits)	<b>rsm</b> (8 bits) 4 LSB
<b>MLT</b>	<b>01001</b>	<b>0000</b>	<b>0000</b>	<b>0000</b>
<b>MLT rsd, rsn, rsm</b>				

**UDIV:**

#### 13. DV

<b>Tipo Instrucción</b> (21 bits)	<b>Opcode</b> (5 bits)	<b>rsd</b> (4 bits)	<b>rsn</b> (4 bits)	<b>rsm</b> (8 bits) 4 LSB
<b>DV</b>	<b>01010</b>	<b>0000</b>	<b>0000</b>	<b>0000</b>
<b>DV rsd, rsn, rsm</b>				

**MLS:**

#### 14. RYM

Tipo Instrucción (21 bits)	Opcode (5 bits)	rsd (4 bits)	rsn - multiplicando (4 bits)	rsm - multiplicador (4 bits)	Rsr – reg de la resta (4 bits)
<b>RYM</b>	<b>01011</b>	<b>0000</b>	<b>0000</b>	<b>0000</b>	<b>0000</b>
<b>RYM rsd, rsn, rsm, rsr</b>					

### Instrucciones del sistema

**SWI:**

#### 15. SW

Tipo Instrucción (21 bits)	Opcode (5 bits)	Interruption (16 bits) 4 LSB
<b>SW</b>	<b>01100</b>	<b>0000000000000000</b>
<b>SW branch</b>		

**PUSH:**

#### 16. PSH

Tipo Instrucción (21 bits)	Opcode (5 bits)	rs (4 bits)	rsn (4 bits)	rsm (4 bits)	rsr (4 bits)
<b>PSH</b>	<b>01101</b>	<b>0000</b>	<b>0000</b>	<b>0000</b>	<b>0000</b>
<b>PSH rs, rsn, rsm, rsr</b>					

**POP:**

#### 17. PP

Tipo Instrucción (21 bits)	Opcode (5 bits)	rs (4 bits)	rsn (4 bits)	rsm (4 bits)	rsr (4 bits)
<b>PPH</b>	<b>01110</b>	<b>0000</b>	<b>0000</b>	<b>0000</b>	<b>0000</b>

**PSH rs, rsn, rsm, rsr**

### Instrucciones de control de flujo

**B:**

#### 18. J

<b>Tipo Instrucción (21 bits)</b>	<b>Opcode (5 bits)</b>	<b>branch (16 bits)</b>
<b>J</b>	<b>01111</b>	<b>0000000000000000</b>
<b>J branch</b>		

**BL:**

#### 19. JL

<b>Tipo Instrucción (21 bits)</b>	<b>Opcode (5 bits)</b>	<b>branch (16 bits)</b>
<b>BL</b>	<b>10000</b>	<b>0000000000000000</b>
<b>JL branch</b>		

**CMP:**

#### 20. CMPI

<b>Tipo Instrucción (21 bits)</b>	<b>Opcode (5 bits)</b>	<b>rsd (4 bits)</b>	<b>rsn (12 bits) 4 LSB</b>
<b>CMPI</b>	<b>10001</b>	<b>0000</b>	<b>0000</b>
<b>CMPI rsd, rsn</b>			

**BEQ:**

#### 21. JEQ

<b>Tipo Instrucción (21 bits)</b>	<b>Opcode (5 bits)</b>	<b>branch (16 bits)</b>

<b>JEQ</b>	<b>10010</b>	<b>000000000000000000</b>
<b>JEQ branch</b>		

**BNE:**

**22. JNE**

<b>Tipo Instrucción (21 bits)</b>	<b>Opcode (5 bits)</b>	<b>branch (16 bits)</b>
<b>JNE</b>	<b>10011</b>	<b>000000000000000000</b>
<b>JNE branch</b>		

**BX:**

**23. JX**

<b>Tipo Instrucción (21 bits)</b>	<b>Opcode (5 bits)</b>	<b>branch (16 bits)</b>
<b>JX</b>	<b>10100</b>	<b>000000000000000000</b>
<b>JX branch</b>		