

LDR (0110) Instruction Cycle

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
0110				DR			BR			offset6					

Instruction Fetch

MAR $\leftarrow$ **PC**

PC $\leftarrow$ **PC** + 1

MDR $\leftarrow$ **memory**[**MAR**]

IR $\leftarrow$ **MDR**

Decode

IR[15:12] **decoded**

Evaluate Address

MAR $\leftarrow$ **R**_{IR[8:6]} + **sign_ext**₁₆(**IR**[5:0])

Operand Fetch

MDR $\leftarrow$ **memory**[**MAR**]

Execute

n/a

Store Result

R_{IR[11:9]} $\leftarrow$ **MDR**