

Instruction  
Decoder

instruction\_i

[17:0]

reset\_i

clk\_i

constant\_kk\_o

[7:0]

constant\_aaa\_o

[11:0]

mux\_i\_o\_select\_o

mux\_register\_select\_o

[1:0]

sRegister\_X\_ID\_o

[3:0]

sRegister\_Y\_ID\_o

[3:0]

sRegister\_write\_enable\_o

mux\_ALU\_select\_o

sALU\_select\_o

[5:0]

mux\_stack\_select\_o

sStack\_enable\_o

mux\_PC\_select\_o

[1:0]

or\_Pc\_o

sRAM\_write\_or\_read\_o

sRAM\_enable\_o