Clocked

Buffered input

Buffered output

RAM_{in} Control line (active high)

$\overline{RAM_{out}}$ *Control line (active low)*

1 **Stack Pointer**

- Outputs a 16-bit word, used to store return addresses for CALL/RET instruction
- High 8 bits are always set to 1
- Low 8 bits are determined by binary counter (so the stack is stored in RAM address FF00-FFFF)
- Control lines simply decrement/ increment the counter
- Addresses take up 2 bytes, there is room for 256 bytes so a maximum of 128 nested CALL instructions can occur

2 **Memory**

- Boot from ROM can be disabled. In that case the program code must be entered manually using DIP switches (or another yet undetermined interface)
- When ROM is enabled:
  ROM = address 0000 – 3FFF
  RAM = address 4000 – FFFF
- When ROM is disabled
  RAM = address 0000 - FFFF