SIC! control register description

* Control register address is $D500. Because of partial address decoding the register in fact occupies addresses $D500-$D51F (32 bytes).

* This register is read/write: it reacts on write, but the value that was written to may be read from the register at any time.

* The default state (after power-up) is $00. This corresponds to the 8k cartridge present in the area $A000-$BFFF.

* Bit functions:

7 = 0 – flash write-protection is on
6 = 0 – odd 8k block **present** in $A000-$BFFF
5 = 0 – even 8k block **not present** in $8000-$9FFF

Bits 4-0 select a 16k bank number, 0-31 (bit 0 is the least significant bit of this number). Bank $00 corresponds to addresses $00000-$03FFF of the flash memory, bank $01 - $04000-$07FFF and so on.

Bits 6 and 5 decide, if the corresponding half of the 16k block that has been selected with bits 4-0 is present under the respective addresses of the Atari memory. Bit 5 controls the first half (addresses $8000-$9FFF in Atari memory, or the lower half of the 16k portion of the flash memory). Bit 6 controls the other half (addresses $A000-$BFFF in Atari memory, or the higher half of the 16k portion of the flash memory).

As a result, if the flash is 256k, a half of it (128k) is always available under $8000-$9FFF, and the other half – under $A000-$BFFF.

Example register values:

$00 – flash addresses $02000-$03FFF available at $A000-$BFFF.
$20 – flash addresses $00000-$03FFF available at $8000-$BFFF.
$60 – flash addresses $00000-$01FFF available at $8000-$9FFF.
$40 – flash not present in Atari memory.
$A0 – like $20, but with the flash write-protection switched off.

Flash control addresses are available at:

1) $5555 – at $9555 in bank $01 (access: write $A1 to $D500)
2) $2AAA – at $AAAA in bank $00 (access: write $A0 to $D500)