

# csr

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# Auto-generated by Migen (b1b2b29) & LiteX (c3ed8025) on 2020-06-30 17:53:32
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csr_base      ctrl                0x82000000
csr_base      identifier_mem      0x82001000
csr_base      uart_phy            0x82001800
csr_base      uart                0x82002000
csr_base      timer0              0x82002800
csr_base      buttons             0x82003000
csr_base      lcd_core            0x82003800
csr_register  ctrl_reset          0x82000000      1 Read/Write
csr_register  ctrl_scratch        0x82000004      4 Read/Write
csr_register  ctrl_bus_erRead onlyrs 0x82000014      4 Read only
csr_register  uart_phy_tuning_word 0x82001800      4 Read/Write
csr_register  uart_rtx            0x82002000      1 Read/Write
csr_register  uart_txfull         0x82002004      1 Read only
csr_register  uart_rxempty        0x82002008      1 Read only
csr_register  uart_ev_status      0x8200200c      1 Read/Write
csr_register  uart_ev_pending     0x82002010      1 Read/Write
csr_register  uart_ev_enable      0x82002014      1 Read/Write
csr_register  timer0_load         0x82002800      4 Read/Write
csr_register  timer0_reload       0x82002810      4 Read/Write
csr_register  timer0_en           0x82002820      1 Read/Write
csr_register  timer0_update_value 0x82002824      1 Read/Write
csr_register  timer0_value        0x82002828      4 Read only
csr_register  timer0_ev_status    0x82002838      1 Read/Write
csr_register  timer0_ev_pending   0x8200283c      1 Read/Write
csr_register  timer0_ev_enable    0x82002840      1 Read/Write
csr_register  buttons_in          0x82003000      1 Read only
csr_register  buttons_dir         0x82003004      1 Read only
csr_register  buttons_ev_status   0x82003008      1 Read/Write
csr_register  buttons_ev_pending  0x8200300c      1 Read/Write
csr_register  buttons_ev_enable   0x82003010      1 Read/Write
csr_register  lcd_core_DATA       0x82003800      1 Read/Write
csr_register  lcd_core_ADDR       0x82003804      1 Read/Write
csr_register  lcd_core_BUS        0x82003808      1 Read only
csr_register  lcd_core_START      0x8200380c      1 Read/Write
csr_register  lcd_core_OPTION     0x82003810      1 Read/Write
csr_register  lcd_core_CS         0x82003814      1 Read/Write
constant      config_clock_frequency 100000000
constant      config_cpu_has_interrupt None
constant      config_cpu_reset_addr 0
constant      config_cpu_type_vexriscv None
constant      config_cpu_variant_standard None
constant      config_cpu_human_name vexriscv
constant      config_cpu_nop nop
constant      config_csr_data_width 8
constant      config_csr_alignment 32
constant      config_bus_standard wishbone
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|               |                          | csr        |              |
|---------------|--------------------------|------------|--------------|
| constant      | config_bus_data_width    | 32         |              |
| constant      | config_bus_address_width | 32         |              |
| constant      | buttons_interrupt        | 4          |              |
| constant      | timer0_interrupt         | 1          |              |
| constant      | uart_interrupt           | 0          |              |
| memory_region | Read only m              | 0x00000000 | 32768 cached |
| memory_region | sram                     | 0x01000000 | 4096 cached  |
| memory_region | main_ram                 | 0x40000000 | 16384 cached |
| memory_region | csr                      | 0x82000000 | 65536 io     |

### Control Status Registers

|                       | Address    |
|-----------------------|------------|
| <b>ctrl</b>           | 0x82000000 |
| <b>identifier_mem</b> | 0x82001000 |
| <b>uart_phy</b>       | 0x82001800 |
| <b>uart</b>           | 0x82002000 |
| <b>timer0</b>         | 0x82002800 |
| <b>buttons</b>        | 0x82003000 |
| <b>lcd_core</b>       | 0x82003800 |

### General Memory Map

|                 | Address    |
|-----------------|------------|
| <b>rom</b>      | 0x00000000 |
| <b>sram</b>     | 0x01000000 |
| <b>main_ram</b> | 0x40000000 |
| <b>csr</b>      | 0x82000000 |

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| Control    |            |            |      |
|------------|------------|------------|------|
|            | Address    | Type       | size |
| Reset      | 0x82000000 | Read/Write | 1    |
| Scratch    | 0x82000004 | Read/Write | 4    |
| Bus errors | 0x82000014 | Read only  | 4    |

| Uart          |            |            |      |
|---------------|------------|------------|------|
|               | Address    | Type       | size |
| Tuning word   | 0x82001800 | Read/Write | 4    |
| Rx Tx         | 0x82002000 | Read/Write | 1    |
| Tx full       | 0x82002004 | Read only  | 1    |
| Rx Empty      | 0x82002008 | Read only  | 1    |
| Event status  | 0x8200200c | Read/Write | 1    |
| Event pending | 0x82002010 | Read/Write | 1    |
| Event enable  | 0x82002014 | Read/Write | 1    |

| Timer         |            |            |      |
|---------------|------------|------------|------|
|               | Address    | Type       | size |
| Load          | 0x82002800 | Read/Write | 4    |
| Reload        | 0x82002810 | Read/Write | 4    |
| Enable        | 0x82002820 | Read/Write | 1    |
| Update value  | 0x82002824 | Read/Write | 1    |
| Value         | 0x82002828 | Read only  | 4    |
| Event status  | 0x82002838 | Read/Write | 1    |
| Event pending | 0x8200283c | Read/Write | 1    |
| Event enable  | 0x82002840 | Read/Write | 1    |

| Buttons       |            |            |      |
|---------------|------------|------------|------|
|               | Address    | Type       | size |
| In            | 0x82003000 | Read only  | 1    |
| Direction     | 0x82003004 | Read only  | 1    |
| Event status  | 0x82003008 | Read/Write | 1    |
| Event pending | 0x8200300c | Read/Write | 1    |
| Event enable  | 0x82003010 | Read/Write | 1    |

| LCD core      |            |            |      |
|---------------|------------|------------|------|
|               | Address    | Type       | size |
| Data          | 0x82003800 | Read/Write | 1    |
| Address       | 0x82003804 | Read/Write | 1    |
| Busy          | 0x82003808 | Read only  | 1    |
| Start         | 0x8200380c | Read/Write | 1    |
| Option        | 0x82003810 | Read/Write | 1    |
| Chip selector | 0x82003814 | Read/Write | 1    |