# Dreamcast Videoregister

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28.12.99

| | b31 | b30 | b29 | b28 | b27 | b26 | b25 | b24 | b23 | b22 | b21 | b20 | b19 | b18 | b17 | b16 | b15 | b14 | b13 | b12 | b11 | b10 | b9 | b8 | b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0xa05f8040 | | | | | | | | ? | border color red | | | | | | | | border color green | | | | | | | | border color blue | | | | | | | |

| | b31 | b30 | b29 | b28 | b27 | b26 | b25 | b24 | b23 | b22 | b21 | b20 | b19 | b18 | b17 | b16 | b15 | b14 | b13 | b12 | b11 | b10 | b9 | b8 | b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0xa05f8044 | | | | | | | | | C | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | COL | | ? | DE |

DE — displaying
- 0 — off
- 1 — on

COL — color mode

| b3 | b2 | | r | g | b | | bytes je pixel |
|---|---|---|---|---|---|---|---|
| 0 | 0 | | 5 | 5 | 5 | | 2 |
| 0 | 1 | | 5 | 6 | 5 | | 2 |
| 1 | 0 | | | | | | |
| 1 | 1 | | 8 | 8 | 8 | | 4 |

C — clock

| | b31 | b30 | b29 | b28 | b27 | b26 | b25 | b24 | b23 | b22 | b21 | b20 | b19 | b18 | b17 | b16 | b15 | b14 | b13 | b12 | b11 | b10 | b9 | b8 | b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0xa05f8050 | | | | | | | | | screen base address | | | | | | | | | | | | | | | | | | | | | | | |

| | b31 | b30 | b29 | b28 | b27 | b26 | b25 | b24 | b23 | b22 | b21 | b20 | b19 | b18 | b17 | b16 | b15 | b14 | b13 | b12 | b11 | b10 | b9 | b8 | b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0xa05f805c | | | scanline offset | | | | | | | | | | screen height | | | | | | | | | | screen width | | | | | | | | | |

| | |
|---|---|
| screen with | = diplayed words - 1 |
| screen height | = displayed scanlines - 1 |
| scanline offset | = offset to next scanline + 1 |

| | b31 | b30 | b29 | b28 | b27 | b26 | b25 | b24 | b23 | b22 | b21 | b20 | b19 | b18 | b17 | b16 | b15 | b14 | b13 | b12 | b11 | b10 | b9 | b8 | b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0xa05f80d0 | | | | | | | | | | | | | | | | | | | | | | | ? | VO | ? | ? | ? | I | ? | HP | VP | ? |

| | |
|---|---|
| VP | V-Sync polarity |
| 0 | negative |
| 1 | positive |
| | |
| HP | H-Sync polarity |
| 0 | negative |
| 1 | positive |
| | |
| I | interlace |
| 0 | off |
| 1 | on |
| | |
| VO | video output enable |
| 0 | off |
| 1 | on |

| | b31 | b30 | b29 | b28 | b27 | b26 | b25 | b24 | b23 | b22 | b21 | b20 | b19 | b18 | b17 | b16 | b15 | b14 | b13 | b12 | b11 | b10 | b9 | b8 | b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0xa05f80d4 | | | | | | | start display border H | | | | | | | | | | | | | | | | end display border H | | | | | | | | | |

| | b31 | b30 | b29 | b28 | b27 | b26 | b25 | b24 | b23 | b22 | b21 | b20 | b19 | b18 | b17 | b16 | b15 | b14 | b13 | b12 | b11 | b10 | b9 | b8 | b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0xa05f80d8 | | | | | | | V counter | | | | | | | | | | | | | | | | H counter | | | | | | | | | |

| | |
|---|---|
| H counter | amount of pixels per scanline |
| V counter | amount of scanlines |

| Address | b31 | b30 | b29 | b28 | b27 | b26 | b25 | b24 | b23 | b22 | b21 | b20 | b19 | b18 | b17 | b16 | b15 | b14 | b13 | b12 | b11 | b10 | b9 | b8 | b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0xa05f80dc | | | | | | | start display border V | | | | | | | | | | | | | | | | end display border V | | | | | | | | | |
| 0xa05f80e0 | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | V sync width | | | | | H sync width | | | | | | |
| 0xa05f80e4 | | | | | | | | | | | | | | ? | ? | ? | | | | ? | ? | ? | ? | ? | | | | ? | ? | ? | ? | ? |
| 0xa05f80e8 | | | | | | | | | | | ? | ? | ? | ? | ? | ? | | | | | | | | ? | ? | ? | ? | ? | ? | ? | ? | ? |
| 0xa05f80ec | | | | | | | | | | | | | | | | | | | | | | | H position screen | | | | | | | | | |
| 0xa05f80f0 | | | | | | | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | | | | | | | Start Bild V | | | | | | | | | |
| 0xa0702C00 | | | | | | | | | | | | | | | | | | | | | | | Vout | | | | | | | | | ? |

| b9 | b8 | Vout |
|---|---|---|
| 0 | 0 | RGB |
| 0 | 1 | RGB |
| 1 | 0 | RGB |
| 1 | 1 | Composite |

0xa5000000 8 Mbyte VideoRAM
0xa5800000