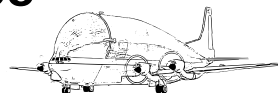




Beluga / Super Guppy

Quick Reference



Registers

Address Beluga	Address Super Guppy	Read/Write	Description
\$DE00 56832	\$DE00 56832	R/W	Read/write flash. Read or write a byte from/to the serial flash memory. If the flash memory is not selected, it will be automatically selected if you write to this register.
\$DE01 56833	\$DE01 56833	R/W	Read/write flash with deselect. Read or write a byte from/to the serial flash memory. If the flash memory is not selected, it will be automatically selected if you write to this register. After your read or write has been performed, the flash memory is deselected.
\$DE02 56834	\$DE02 56834	R/W	Read/write flash with dummy cycles. Read or write a byte from/to the serial flash memory. If the flash memory is not selected, it will be automatically selected if you write to this register. After your read or write has been performed, two extra dummy cycles are performed to the flash memory.
\$DE03 56835	\$DE04 56836	R/W	Configuration register The configuration register of the cartridge.
\$DE07 56839	\$DE08 56840	W	Reboot. Resets the computer without resetting the cartridge. If flash memory is selected, it will remain selected.

- Unlike most C64 cartridges, the Beluga and Super Guppy allow you to read back the configuration register.
- You can set up a flash read and reboot to boot the computer from a different location in flash memory.
- A Commodore 128 can exit Commodore 64 mode through a reboot, and start executing native software if a flash read has been set up before the reboot.
- If you read from flash memory when the flash expects a write, you will write \$FF.

SUPER GUPPY configuration register

Bit #	Description
0-2	Parallel ROM bank switch
3	SAM/Parallel 0 = \$8000..\$9FFF is SAM from serial flash 1 = \$8000..\$9FFF is parallel flash
4	GAME 0 = GAME is pulled low 1 = GAME is not being pulled
5	EXROM 0 = EXROM is pulled low 1 = EXROM is not being pulled
6	KERNAL replacement 0 = No kernal replacement 1 = Bank 7 of parallel flash rom visible at \$E000..\$FFFF
7	Cartridge LED 0 = Led is off 1 = Led is on

BELUGA configuration register

Bit #	Description
0-2	C64 memory configuration mode. Selects a Commodore 64 memory configuration 0 = Normal mode, cartridge is invisible except via registers at \$DExx 1 = 8KB SRAM read-only at \$8000..\$9FFF 2 = 16KB SRAM read-only at \$8000..\$BFFF 3 = 8KB SRAM writable at \$8000..\$9FFF, 8KB SRAM writable at \$E000..\$FFFF 4 = 8KB SRAM read-only at \$A000..\$BFFF 5 = 8KB SAM at \$8000..\$9FFF 6 = 16KB SAM at \$8000..\$BFFF 7 = 8KB SRAM writable at \$8000..\$9FFF, 8KB SAM at \$A000..\$BFFF
3	IO2 mode 0 = \$DFxx is SRAM 1 = \$DFxx is SAM
4	Commodore 128 startup mode 0 = Commodore 128 starts in Commodore 64 mode 1 = Commodore 128 starts in Commodore 128 mode
5	Unused
6	Unused
7	Cartridge LED 0 = Led is off 1 = Led is on

Reading from flash

Start reading flash memory from \$aabbcc.

```
LDA #$EB ; Command
STA $DE00
LDA #$aa ; Address high
STA $DE00
LDA #$bb ; Address mid
STA $DE00
LDA #$cc ; Address low
STA $DE00
LDA $DE02 ; Send M byte and dummy cycles

LDA $DE00 ; Read a byte
LDA $DE00 ; Read another byte
...
LDA $DE01 ; Deselect flash
```