

# SAGA Clock-Cycle Register



## Overview

Clock-Cycle Register is a new SAGA Read-Only register. It is unique feature, never seen in other 68K existing system. It allows to get, in real-time, the number of cycles consumed by one or more instructions. This register can come in handy when programmer need to optimize his code and locate greedy routines.

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## Name

- SAGA\_CLOCK\_COUNTER

## Address

- 0xDE0008

## Access

- Read-Only

## Size

- 32-bits
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## Description

Each time register is read, the internal counter is reinitialized to 0.

Can overflow if the delay between two calls is too long.

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## Example

TEST:

```
move.l #$CAFECAFE,d1 ; Operand for DIVU.L
tst.l  $DE0008      ; Reset the Clock-Cycle counter
divu.l #100,d1      ; Consume some CPU cycles
move.l $DE0008,d0   ; D0 = Number of cycles consumed by the DIVU
instruction.
rts
```

## Macros

```
DEBUG EQU 1
```

```
SAGA_CLOCK_COUNTER EQU $DE0008
```

```
CLKCNT_RESET MACRO
```

```
IFNE DEBUG
```

```
tst.l SAGA_CLOCK_COUNTER
```

```
ENDC
```

```
ENDM
```

```
CLKCNT_SAVE MACRO
```

```
IFNE DEBUG
```

```
move.l SAGA_CLOCK_COUNTER, __\1
```

```
ENDC
```

```
ENDM
```

```
CLKCNT_ADD MACRO
```

```
IFNE DEBUG
```

```
move.l d0, -(sp)
```

```
move.l SAGA_CLOCK_COUNTER, d0
```

```
add.l d0, __\1
```

```
move.l (sp)+, d0
```

```
ENDC
```

```
ENDM
```

MyRoutine:

```
move.l #$CAFECAFE,d1 ; Operand for DIVU
```

```
CLKCNT_RESET ; Reset the Clock-Cycle counter
```

```
divu.l #100,d1 ; Consume some CPU cycles
```

```
CLKCNT_SAVE MyCounter ; Save the number of cycles in MyCounter
```

```
RTS
```

MyCounter: DC.L 0

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