

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.

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.

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_CLKCNT EQU $DE0008

CLKCNT_RESET MACRO
    IFNE DEBUG
        tst.l SAGA_CLKCNT
    ENDC
ENDM

CLKCNT_SAVE MACRO
    IFNE DEBUG
        move.l SAGA_CLKCNT, __\1
    ENDC
ENDM

CLKCNT_ADD MACRO
    IFNE DEBUG
        move.l d0, -(sp)
        move.l SAGA_CLKCNT, 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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