

SAGA_CLOCK_COUNTER Register



Overview

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

Name

- SAGA_CLOCK_COUNTER

Address

- 0xDE0008

Access

- Read-Only

Size

- 32-bits
-

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_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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