68060

COLLABORATORS

	TITLE : 68060		
ACTION	NAME	DATE	SIGNATURE
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REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

Contents

Chapter 1

68060

1.1 68060.doc

```
                 --Background--

             FPUControl()
```

1.2 68060.library/--Background--

```
   PURPOSE
```

This is the support library for 68060 based Amigas. Its purposes
are manifold:

- Fixes and workarounds for several programs that typically appear
  on 68060 based systems, mainly cache related, and related to
  the different FPU of the FPU.
- Replacement functions for exec.library CPU related functions.
- Replacement of the exec scheldurer for the FPU support.
- Loading and initialization of the FPSP68060 motorola software
  module for emulation of FPU instructions not natively supported
  by the 68060 internal FPU.
- Loading and setup of the emulated integer instructions of the
  68060.
- Setup of the 68060 MMU and related functions of the exec library.
- Workarounds for possible bugs of the 68060.

The last step is not done by the 68060.library directly but by the
mmu.library which is loaded by the 68060.library on startup.

Furthermore, this library provides user-callable functions. However,
even though they are documented, they shouldn't be called directly.
The recommended calling mechanism is not by using this library
directly, but by calling the same vector of the 680x0.library which
does the same independent of the CPU installed in your system.

1.3   68060.library/FPUControl

```
   NAME
FPUControl      -    control the generation of FPU exceptions

   SYNOPSIS
oldflags = FPUControl ( flags , mask );
d0         d0        d1

ULONG FPUControl ( ULONG , ULONG );

   FUNCTION
This function disables or enables various exceptions the 68060
FPU might generate. The purpose of this function is mainly to
enable workarounds for badly written software.

   INPUTS
flags - A ULONG bit mask of the exceptions to disable. A
    set bit disables the corresponding exception.
mask  - A mask longword of the flags that are to be changed.
    A set bit indicates that the corresponding bit in
    flags mask is valid.

The following bits are currently defined:

FPUCtrlB_BSUN   0L       Disable the branch or set on unordered
        exception.
FPUCtrlB_INEX   1L       Disable the inexact result exception.
FPUCtrlB_DIVZ   2L       Disable the divide by zero exception.
FPUCtrlB_UNFL   3L       Disable the underflow exception.
FPUCtrlB_OVFL   4L       Disable the overflow exception.
FPUCtrlB_SNAN   5L       Disable the signalling NAN exception.
FPUCtrlB_OPERR  6L       Disable the operand error.

   RESULTS
the old settings of the exception mask.

   NOTES
This function should not be called directly. It is called indirectly
by the corresponding library function of the 680x0.library.

This function does not alter the FPU status at all, it does not
even touch the FPU. All it does is that it sets certain control
bits in the 68060 library base which are interpreted by the
exception vectors installed by this library.

Therefore, this library vector does nothing if someone altered the
FPU exception vectors manually.

   BUGS

   SEE ALSO
libraries/68060.h, libraries/680x0.h,
the Motorola 68060 manual.
```