PROJECT

32-BIT MICROPROCESSOR AND COMPUTER SYSTEM DEVELOPMENT

TITLE

ERC32 Rev.CBA - Application Notes

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Class:	CUSTOMER	Host System:	FrameMaker 5
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SUMMARY

These application notes apply to the ERC32 devices IU/FPU/MEC Rev.CBA. It is intended to inform the ERC32 system designer about the errors arise from system applications.

DOCUMENT CHANGE RECORD

Changes between issues are marked with a left-bar

Issue	Date	Paragraphs affected	Change Information
1	960521	all	New document

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1 Introduction

These application notes apply to the ERC32 devices IU/FPU/MEC Rev.CBA. It is intended to inform the ERC32 system designer about the errors indicated by the system and arise from incorrect operations or system configuration. It is also shown how to avoid these errors.

2 Documents

[IUSPEC] IU-RT Preliminary Device Specification, AMS/IURT/0017/CLG, issue 6, 1995

[FPUSPC] FPU-RT Preliminary Device Specification, AMS/FPURT/0018/VS, issue 6, 1995

[MECSPC] MEC Rev.A Device Specification, MCD/SPC/0009/SE, issue 2, 1996

3 Application Notes

3.1 FPU Register File

All FPU registers should be initialized via software before the execution of any FPU operation.

After power-on reset, an FPU register file parity error can occur if an FPU operation is executed before all register have been initialized.

3.2 IU Comparison Error

During master-only operation ($\overline{\text{CMODE}}$=1), the comparison error output ($\overline{\text{MCERR}}$) can be asserted even if no error was present, causing the error handler in the MEC to enter error handling resulting in system reset or halt.

To work around this problem, disconnect $\overline{\text{MCERR}}$ from the MEC ($\overline{\text{IUCMPERR}}$).

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3.4 Master/Checker Configuration

Due to the IU/FPU comparison errors, the Master/Slave configuration on IU and FPU, described in the MEC device specification, is probably affected by these comparison errors. The Master/Checker configuration is not verified and there is no information about the behaviour of $\overline{\text{MCERR}}$ during the checker mode ($\overline{\text{CMODE}}$=0).