# OSEK/VDX

## OSEK Run Time Interface (ORTI)

## Appendix B1: ARM7TDMI
### Processor Register Naming

Version 1.0

29. October 2002

# Preface

OSEK/VDX is a joint project of the automotive industry. It aims at an industry standard for an open-ended architecture for distributed control units in vehicles.

For detailed information about OSEK project goals and partners, please refer to the “OSEK Binding Specification”.

General conventions, explanations of terms and abbreviations have been compiled in the additional inter-project "OSEK Overall Glossary".

Regarding implementation and system generation aspects please refer to the "OSEK Implementation Language" (OIL) specification.

# Table of Contents

# 1 Introduction

This document describes the ARM7TDMI CPU specific names reserved for the use with ORTI. The register names are used within the ORTI CONTEXT object.

# 2 Register Naming

| *Register* | *ORTI Name* | *Remark* |
|---|---|---|
| R0 | _ARM7_R0 | |
| R1 | _ARM7_R1 | |
| R2 | _ARM7_R2 | |
| R3 | _ARM7_R3 | |
| R4 | _ARM7_R4 | |
| R5 | _ARM7_R5 | |
| R6 | _ARM7_R6 | |
| R7 | _ARM7_R7 | |
| R8 | _ARM7_R8 | |
| R9 | _ARM7_R9 | |
| R10 | _ARM7_R10 | |
| R11 | _ARM7_R11 | |
| R12 | _ARM7_R12 | |
| R13 | _ARM7_R13 | SP |
| R14 | _ARM7_R14 | LR |
| R15 | _ARM7_R15 | PC |
| CPSR | _ARM7_CPSR | |
| R8_fiq | _ARM7_R8_FIQ | R8, FIQ mode |
| R9_fiq | _ARM7_R9_FIQ | R9, FIQ mode |
| R10_fiq | _ARM7_R10_FIQ | R10, FIQ mode |
| R11_fiq | _ARM7_R11_FIQ | R11, FIQ mode |
| R12_fiq | _ARM7_R12_FIQ | R12, FIQ mode |
| R13_fiq | _ARM7_R13_FIQ | R13 (SP), FIQ mode |
| R14_fiq | _ARM7_R14_FIQ | R14 (LR), FIQ mode |
| SPSR_fiq | _ARM7_SPSR_FIQ | SPSR, FIQ mode |
| R13_svc | _ARM7_R13_SVC | R13 (SP), supervisor mode |
| R14_svc | _ARM7_R14_SVC | R14 (LR), supervisor mode |
| SPSR_svc | _ARM7_SPSR_SVC | SPSR, supervisor mode |
| R13_abt | _ARM7_R13_ABT | R13 (SP), abort mode |
| R14_abt | _ARM7_R14_ABT | R14 (LR), abort mode |

| | | |
|---|---|---|
| SPSR_abt | _ARM7_SPSR_ABT | SPSR, abort mode |
| R13_irq | _ARM7_R13_IRQ | R13 (SP), IRQ mode |
| R14_irq | _ARM7_R14_IRQ | R14 (LR), IRQ mode |
| SPSR_IRQ | _ARM7_SPSR_IRQ | SPSR, IRQ mode |
| R13_und | _ARM7_R13_UND | R13 (SP), undef mode |
| R14_und | _ARM7_R14_UND | R14 (SP), undef mode |
| SPSR_und | _ARM7_SPSR_UND | SPSR, undef mode |

# 3 History

| Version | Date | Remarks |
|---|---|---|
| 1.0 | 29. October 2002 | Authors:<br>Joachim Stehle (Vector Informatik) |