

EXCIS Extended Common Interface Services DVB Module



Overview

The Extended Common Interface Services DVB Module (EXCIS) from SIDSA is a complete platform for operators and service providers to target their Conditional Access System (CAS) in a DVB Common Interface (CI) standard PCMCIA. Additional services such as Home Banking, EPGs (Electronic Program Guides) and Video Games can also be executed in any decoder, or Set Top Box via the Common Interface (CI). Thus a customer does not have to purchase a different decoder or Set Top Box for every additional service as customisation is achieved simply by inserting the EXCIS PCMCIA in the Common Interface slot. The hardware cost of introducing a new service is reduced considerably with the low cost EXCIS PCMCIA solution.

SIDSA's Common Interface PCMCIA is based on a powerful proprietary chip with an embedded 32 bits RISC (ARM7TDMI™), an innovative demux / filter architecture, and a smart card interface.

Due to the complete development platform provided by SIDSA, conditional access system and additional services can be easily implemented. Industry standard RTOS such as pSOS™ is supported and an extensive development software library is available.

The EXCIS PCMCIA provides a standard platform for operators and service providers to develop their applications. The proprietary ASIC was also implemented in 0.35µm technology.

Key Features

The EXCIS PCMCIA consists of the following hardware components:

- ◆ MPEG and filter processor ASIC:
 - ARM7TDMI™,
 - Section and PID filters,
 - DVB Common Scrambling algorithm,
 - PCMCIA & MPEG transport stream interface (CI),
 - Smart Card interface ISO 7816.
- ◆ 2Mbit or 8Mbit SRAM option.
- ◆ 8Mbits of Flash Memory.
- ◆ Smart Card protector and driver.

MPEG 2 filter characteristics

PID filter. 100% software configurable

- 64 simultaneous PIDs,
- 32 couples of 64 bits control words (odd and even).

Section Filter (Datagram and carousel extraction). 100% software configurable

- 16 parallel Filter,
- 16 bytes length filters,
- 16 bytes length filters masks.

Speed

- ClkSys= 30MHz => 48Mb/s.
- ClkSys=40MHz => 60Mb/s.

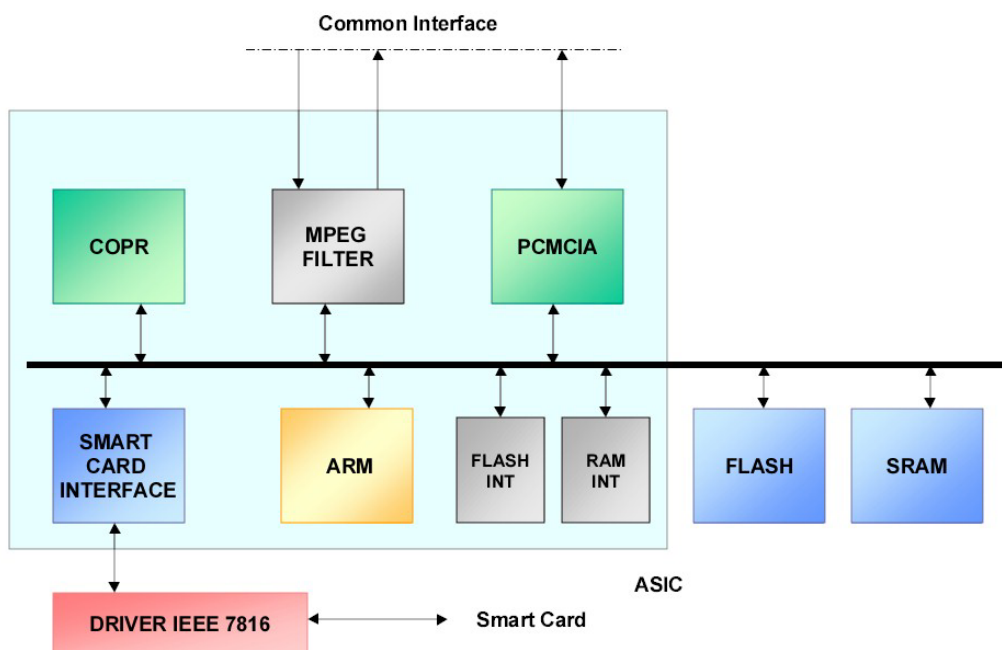
General Characteristics

The EXCIS adheres to the DVB Common Scrambling specification. It uses the EN50221 compliant PCMCIA interface and performs conditional access processing such as ECM and EMM extraction.

Filtering is performed by a MPEG2 co-processor implemented in hardware, controlled by the ARM7™ uC. The EXCIS has a capacity of 64 for channel management, each of which can be descrambled with up to 32 Control Word pairs at TS or PES level at 68Mbits/s.

For ECM, EMM, PSI/SI or any private data filtering and extraction, 64 PID are selectable and can be connected with up to 16 x 16 byte or 32 x 8 bytes programmable and maskable filters.

Device drivers for smart card interface, Transport and Session layers of the DVB Command Interface, High Level MMI and Descrambler and ARM7™ and MPEG2 filter programming are supported. All ISO7816-3 smart card protocols are addressed: asynchronous T0, T1, synchronous PTS burst mode 155kbaud/s.



ARM7TDMI™ and pSOS™ are trademarks of Advanced Risk Machine and Integrated System respectively.



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