



Abel SmartCAM

Making the flat-screen TV look better

As more flat-screen TV sets come with built-in DVB decoder, using a Conditional Access Module (CAM) becomes attractive for the viewers.

With CAM and built-in decoder the Set-Top-Box is no longer necessary. This means less boxes, less cables and one remote control only.

Abel promotes two types of CAMs:

- i) with card slot for an Abel smart card to be inserted
- ii) with Abel smart card chip embedded – no smart card is necessary



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Common Interface (CI) and CAMs:

- CI is the definition of the interface between a TV terminal host, typically a STB or an IDTV (Integrated Digital TV set) and a CAM.
- CI is based on the PCMCIA PC Card standard.
- A CAM compliant with CI is a PC Card, type II, custom class.
- Official reference is EN 50221.

Why CAMs are attractive:

- The CI was first intended for STBs to separate the proprietary security functions from the other STB elements.
- CI and CAM first widespread commercial use have been as decryption device in cable head-ends. Here it allows the head-end to be CAS agnostic thereby more efficient to develop and deploy.
- In the last few years many flat-screens have DVB decoder embedded. Such flat-screens usually have a CI slot to support pay-TV via a CAM.
- Stylish: with a DVB decoder and a CAM in the flat-screen, the user does not need a STB. No STB also implies less cables and a single remote control.

How it works:

- CI assumes the entire Multiple Programme Transport Stream [MPTS] to be routed from the host into and out of the CAM.
- The user selects on the STB or IDTV one of the programmes of the MPTS.
- The STB or IDTV informs the CAM about the user selection.
- The CAM acquires CAS messages associated with the selected programme.
- The CAS messages are processed by the CAM security device.
- The CAM security device may grant access to the content by releasing the content decryption keys to the CAM.
- The CAM uses the keys to decrypt the programme, and returns the now decrypted programme to the host.

Abel DRM Systems AS
Rådhusgata 4
N-0151 Oslo
Norway
web: www.abeldrm.com
e-mail: contact@abeldrm.com



Standard CAM:

- The most common configuration is a CAM prepared for use with smart cards.
- The CAM security device is then a smart card inserted by the user.
- Separating CAM and smart card implies:
 - A CAM may support smart cards from several CAS or operators
 - The CAM and smart card can be updated independently
 - The CAM can be operator independent, and subject to retail distribution.

CAM with embedded security chip:

- The security device is a chip being fixed inside the CAM.
- Embedding the security chip implies:
 - The CAM is CAS specific
 - It is normally issued by an operator
 - A cost advantage

Technical specifications:

- Descrambling: Supports Common Scrambling Algorithm – DVB-CSA
- Smart Card interface (when applicable): ISO7816
- Dimensions: PCMCIA type II
- Host interface: full compliance with DVB-CI Profile 1 protocol
- Compatible with MPEG-2 and MPEG-4
- MPEG demux: Multi-channel section and PID filter configurable through software
- Enclosure structure: Latest compact structure and design for assembly
- Multi-language support for user menus and messages
- Compatible with ROHS Directive 2002/95/EC

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