

The SAA7115 MACH-2 Evaluation System is an extremely flexible tool enabling designers to showcase the performance of Philips Semiconductors' video decoder and encoder solutions. In addition, the MACH-2's stand-alone environment and interactive display provides the user with maximum flexibility and feedback for a complete end-to-end system evaluation.



#### Evaluation board features

- Backwards compatible with existing Philips' video decoders and encoders via dedicated mini modules
- Full auto-detection and configuration of device types
- On-board microcontroller allows stand-alone operation
- Pre-loaded register settings for optimized performance
- LCD and keypad provide interactive control and display of Macrovision® and Closed Captioning data services
- ITU-656 ECL digital video inputs and outputs
- Standard connections for analog inputs and outputs
- Future proof via flash-upgradeable firmware

#### SAA7115 video decoder

- Worldwide video decoding with full auto-detection
- Dual 9-bit low-noise ADCs with 2x-oversampling
- High performance adaptive worldwide 4-line comb filter
- Pixel accurate H/V scaler and filter with video FIFO
- Universal VBI data slicer with I<sup>2</sup>C-bus read-back
- Bi-directional ITU-656 bus & frame-locked audio clock
- Full three-level hardware Macrovision® detection

#### SAA7128A video encoder

- PAL/NTSC/SECAM video encoding
- Six 10-bit current DACs with 27 MHz sample rate
- CVBS, S-Video & Component Y<sub>P</sub>P<sub>r</sub>/RGB outputs
- Comprehensive VBI data insertion
- Optional Macrovision® copy protection

## SAA7115 MACH-2 Evaluation System

### Self-contained video decoder and encoder development platform

#### Dramatically eases design and evaluation of next-generation digital video solutions

The MACH-2 (Mini-module Advanced Carrier Hardware) is a 2<sup>nd</sup>-generation evaluation system that provides the flexibility you need to evaluate any combination of Philips Semiconductors' family of digital video decoders and encoders. The board accepts either analog inputs (CVBS and S-video) or ECL level ITU-656 digital video data. The analog inputs are decoded – with all broadcast standards supported – and both the decoded input signals and ITU-656 data can be passed to the encoder for display on a standard definition analog NTSC or PAL TV.

#### Designed to save you time

The evaluation system provides all the appropriate bus headers and test points to allow for flexible interfacing to your application. On-board regulators and filters provide all power supply requirements for analog, digital, and ECL voltages. A LCD display and keypad provide the user with an interactive environment for programming register settings and selecting menu options such as Closed Captioning data services.

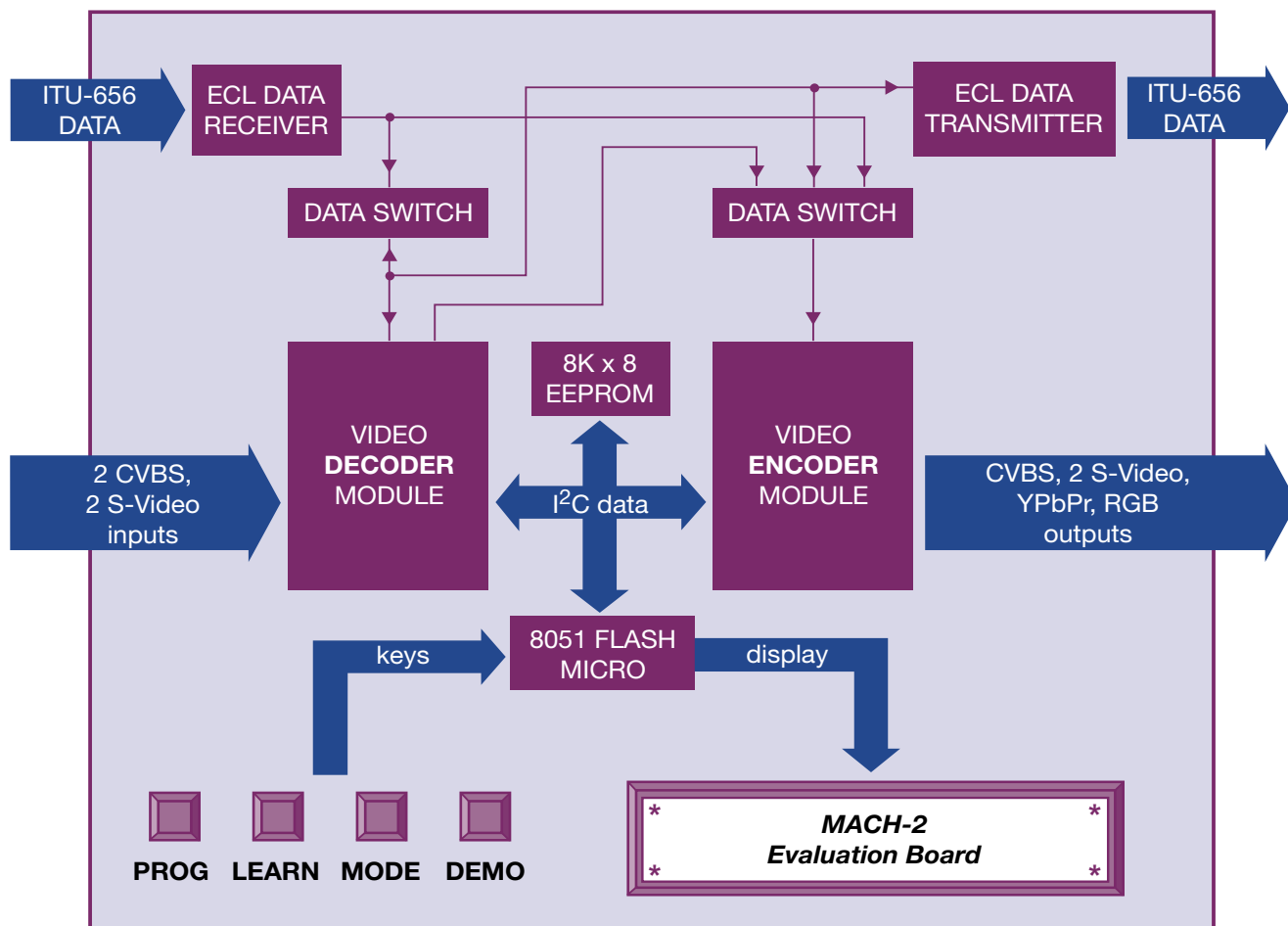
A PC connection provides full register access for controlling parameters such as luma/chroma bandwidth, brightness, contrast, sharpness and comb filter characteristics during the decoding process. The ITU-656 data from the video decoder can be output digitally or re-encoded to analog. In addition, the MACH-2 provides the user with full control over the output signals.

#### Completely self-contained

The evaluation board contains a flash-upgradeable microcontroller, providing complete stand-alone capability. Register settings are stored in an EEPROM to support customization, with an I<sup>2</sup>C-bus connector allowing the registers to be externally controlled using Philips' versatile Universal Register Debugger (URD) control software.

Providing you with the tools to develop advanced digital video applications, the MACH-2 Evaluation System includes a MACH-2 board, decoder and encoder mini modules, installation and user's guide, complete software toolkit, AC adapter, I<sup>2</sup>C-bus interface and a selection of video cables.

## MACH-2 System block diagram



MSD810

## Philips Semiconductors

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