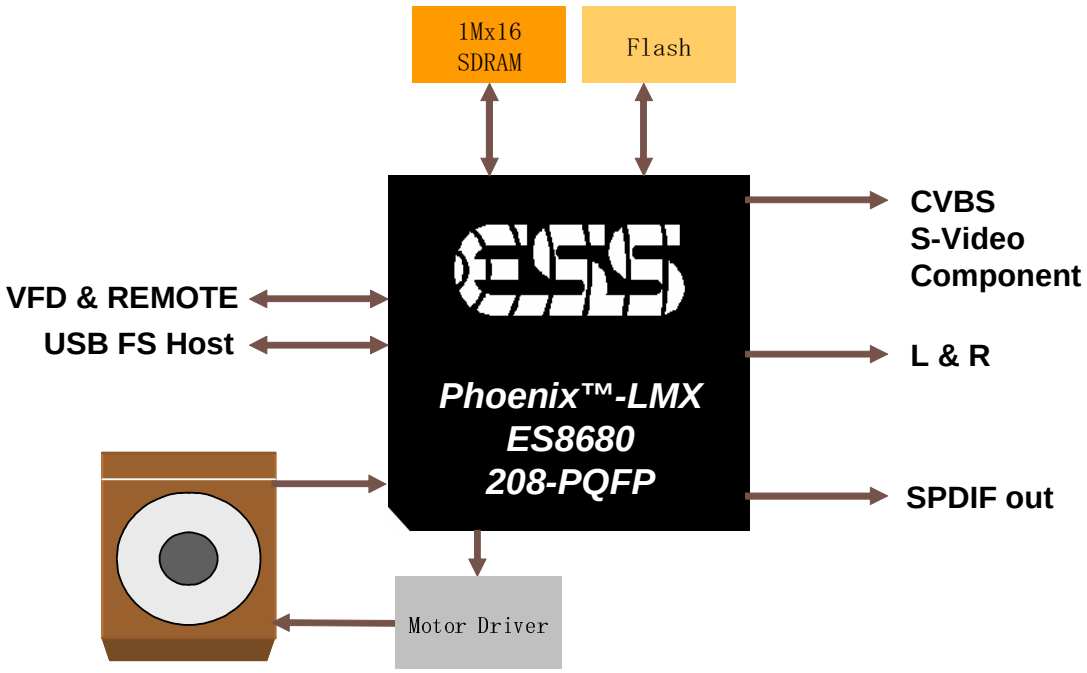
ESS Technology, Inc.

ES8680
Phoenix LMX DVD Processor
Product Brief

The Phoenix™ LMX ES8680 family of processors are single-chip DVD processors with an integrated servo controller and RF amplifier. It provides standard DVD decoding with options to support MPEG-4 ASP decoding and DivX® Home Theater playback. A USB full-speed host controller is built-in for connection to thumb drives and memory card readers.

Features	Benefits
Integrated servo controller and RF amplifier	Simplifies system design while reducing system cost
DivX Home Theater Profile decoding	Displays DivX encoded video at full screen
USB full speed host controller	Enables interface to thumb drives and memory card readers
Advanced memory architecture	Decode DVD and MPEG4 video in 2 MB of SDRAM



Phoenix LMX ES8680 Based DVD Player Block Diagram

Detailed Features

- Servo
  - Built-in RF amplifier and servo controller
  - High-performance focusing, sledding, tracking and CLV/CAV spindle servo control
  - DVD-Video, DVD-R/RW, DVD+R/RW, SVCD, VCD, CD-ROM, CD-R/RW, CD-DA support
- Video Decode
  - DivX Home Theater quality video at full screen (D1) *
  - MPEG-4 Advanced Simple Profile video including GMC and QPEL support *
  - JPEG digital photo support (Kodak Picture CD™ and Fujifilm FujiColor CD™)
  - OSD controller supports 256 colors in 8 degrees of transparency
  - Sub-picture Unit (SPU) decoder supports karaoke lyric, subtitles and EIA-608 compliant Line 21 captioning
  - Pixel-adaptive de-interlacer

* Not all features are available with all Phoenix LMX parts. Refer to the Ordering Information page for additional details or consult your ESS Sales Representative.

- System
  - 16-bit DRAM interface for up to 128-Mb capacity
  - 8-bit EPROM/Flash interface for up to 4 banks x 4 MB
  - USB full-speed host controller
  - Serial UART port
- Audio Decode
  - Dolby Digital, MP3 and WMA
- Video Input/Output
  - Six video DACs
  - Macrovision protected, NTSC/PAL interlaced, and progressive scan video output
  - BT656 video input and output ports
- Audio Input/Output
  - Stereo audio ADC
  - SPDIF digital audio input and output
  - 6-channel audio DAC
- Package Type
  - 208-pin PQFP with lead free leads

Phoenix LMX DVD Development Kit

The Phoenix DVD LMX Development Kit comes with a complete set of tools:

- DVD reference design
- Data sheet and schematics
- User Interface software source code
- ROM emulator for code development

Additionally ESS provides FAE support for:

- Customer prototype design
- Firmware customization
- Servo tuning assistance



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U.S. patents pending.

MPEG is the Moving Picture Experts Group of the ISO/IEC. References to MPEG in this document refer to the ISO/IEC JTC1 SC29 committee draft ISO 11172 dated January 9, 1992.

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