



DESCRIPTION

The ES4810 Digital Audio Processor (DAP™3) is an SOC chip designed for Audio Boom-Box and Mini-Combo applications. It integrates a servo controller, RF amplifier, servo DSP, MP3 and WMA decoders, USB 2.0 Driver, 2 channels audio DAC, 2 channels of audio ADC for Karaoke, SD/MS/MMC card reader and MP3 encoder. The ES4810 has the largest feature set and is the most highly integrated and cost-effective solution currently available.

The ES4810 provides auxiliary control pins for AM/FM tuner control, LCD driver and system management. The ES4810's internal RISC processor can be used in place of a microcontroller to provide all system controls and user interface.

The ES4810 digital audio processor is available in a 208-pin Plastic Quad Flat Pack (PQFP) device package.

FEATURES

- CD Optical loader with integrated servo controller and RF amplifier.
- Disc format supports CD-R/RW, CD.
- File system supports ISO9660, UDF, NTFS, and FAT32.
- Audio DSP decodes MP3, WMA, AAC, and OGG. Can also encode MP3 and store into USB flash or memory cards.
- USB 2.0 FS to support USB flash drive for music playback.
- Digital audio SPDIF In and Out.
- VDAC for file browsing and management.
- 2-channel audio DAC, 2-channel ADC.
- 2-channel PWM supports class D digital amplifiers.
- SD/MMC/MS card reader interface.
- Audio equalizer and bass enhancement support.
- LCD panel control and FM/AM tuner control.
- Serial UART port.
- 1.5V power supply with 3.3V tolerant I/Os, power consumption < 1W.
- Lead-free leads.

SYSTEM BLOCK DIAGRAM

A sample system block diagram for the ES4810 digital audio board design is shown in Figure 1.

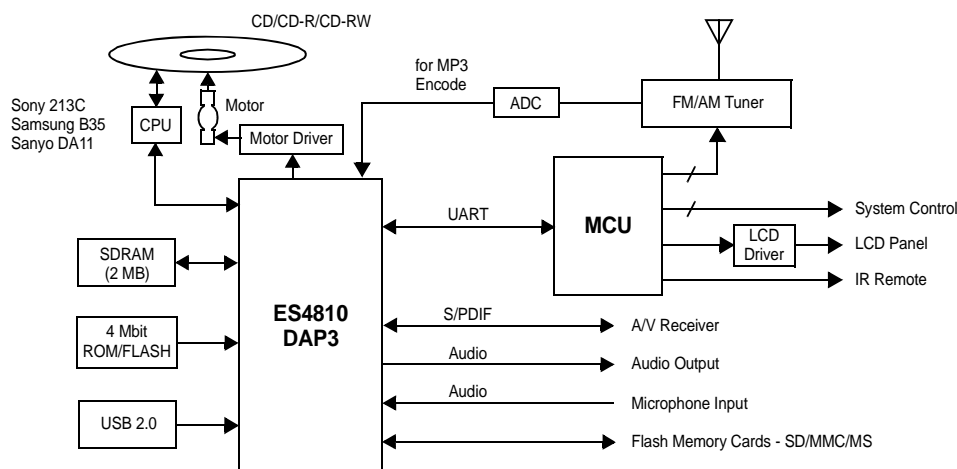


Figure 1 ES4810 System Block Diagram

ORDERING INFORMATION

| Part Number | Description | Package |
|-------------|---|--------------|
| ES4810FAA | Digital Audio Processor | 208-pin PQFP |
| ES4810SAA | Digital Audio Processor with extended temperature range for automotive applications | 208-pin LQFP |

The first letter F in the part number identifies the package type PQFP.

The first letter S in the part number identifies the package type LQFP.



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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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