Incorporating Philips Semiconductors' world–beating technological expertise in digital audio, this new family of flexible, complete system solutions covers MP3 CD, flash memory card, Internet radio and simple jukebox applications. With support for analog inputs and in–field programmability, these highly integrated solid state audio (SSA) devices are ideal for portable and in–home audio systems, as well as car radio systems.

SAA775x Internet audio DSP family

Highly integrated, in-field programmable SSA ICs

Key features
- Programmable DSP architecture – multiple compression format support
- Energy efficient, low power consumption for long battery life
- Embedded flash memory option for field upgradeability
- Software stack and development framework available
- Very small form factor

Software decoder and sound features
- MP3 decoding
- WMA decoding
- AAC low complexity decoding
- Volume, treble, bass
- *Ultrabass*, *infrapitch* and *incredible headphone*
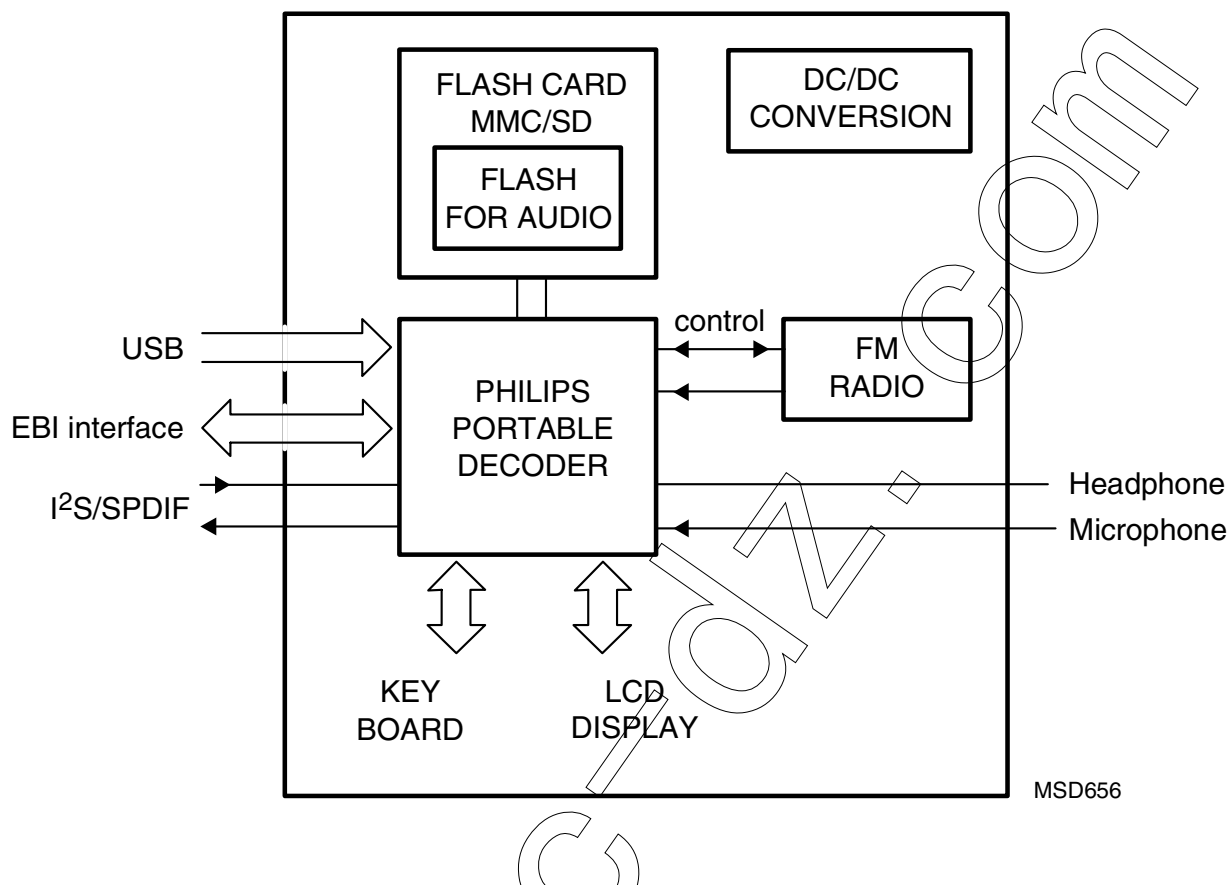
SAA7750
- MCM with program flash memory and stereo audio codec; basis for complete system solution
- USB 1.1 interface support
- Smartmedia, Multi Media Card (MMC) and optional Secure Digital (SD) memory card support
- Embedded NAND flash support
- Fully field upgradeable for portable applications (flash- and CD-based)

Family variants
- SAA7751: embedded DSP core and flash memory - field upgradeable solution for (MP3) CD without audio codec
- SAA7752: embedded DSP core only, with external memory interface – cost-optimized for (portable) CD applications
- SAA7753: embedded DSP core only – low cost add-on solution without audio codec and flash

Based on Philips Semiconductors' long experience in digital audio applications, the latest addition to our extensive portfolio of audio ICs - the SAA775x family - provides advanced functionality for today's increasingly popular Internet audio equipment. These versatile devices offer future-proof, very small form factor, low power solutions for a wide range of portable and fixed devices, including car radio.

The powerful SAA7750 is ideal for portable devices, particularly MP3 CD and SSA (flash memory) players. Featuring an embedded DSP core and 32-bit ARM RISC processor, it offers a very high level of integration and is a true single-chip solution for a complete ready-to-use system. It is SDMI (Secure Digital Music Initiative) compliant and offers voice decoding capabilities via an ADPCM codec, and supports PC download via a USB 1.1 compliant interface.

Like all SAA775x devices, the SAA7750 has a programmable architecture, enabling it to support multiple audio decompression algorithms such as MP3, AAC and Microsoft WMA. With on-board flash memory, it is also fully field upgradeable to keep pace with developing audio compression formats. This type of feature is particularly valuable for car radio applications, where software upgrades are highly preferable to installing new equipment.

Offering similar features, the SAA7751 does not include an audio codec and is targeted primarily at field upgradeable (MP3) CD players; and with embedded RAM rather than flash, the SAA7753 is a low cost MP3 add-on solution for CD systems. Both are particularly suitable for automotive applications. The first family is completed with the SAA7752, a fully cost-optimized solution for CD applications with an external memory interface.

All SAA775x devices ensure extremely efficient power management, for long battery life in portable devices. The embedded processor can be run at different speeds according to its current function to save power and, when not in use, individual components on the chip can be turned off for maximum energy conservation.

As multi-chip modules, the SAA775x family offers extensive design flexibility with possibilities for customized functionality. Philips Semiconductors can also provide a complete software stack and development tools to help with fast product design and differentiation. This initial family will be followed by second generation devices, addressing further applications such as (portable) jukeboxes, with support for music storage on a hard disk.

Let's make things better.

PHILIPS

SSA/MP3 PLAYER: MEMORY CARD APPLICATION

MSD656

Let's make things better.

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