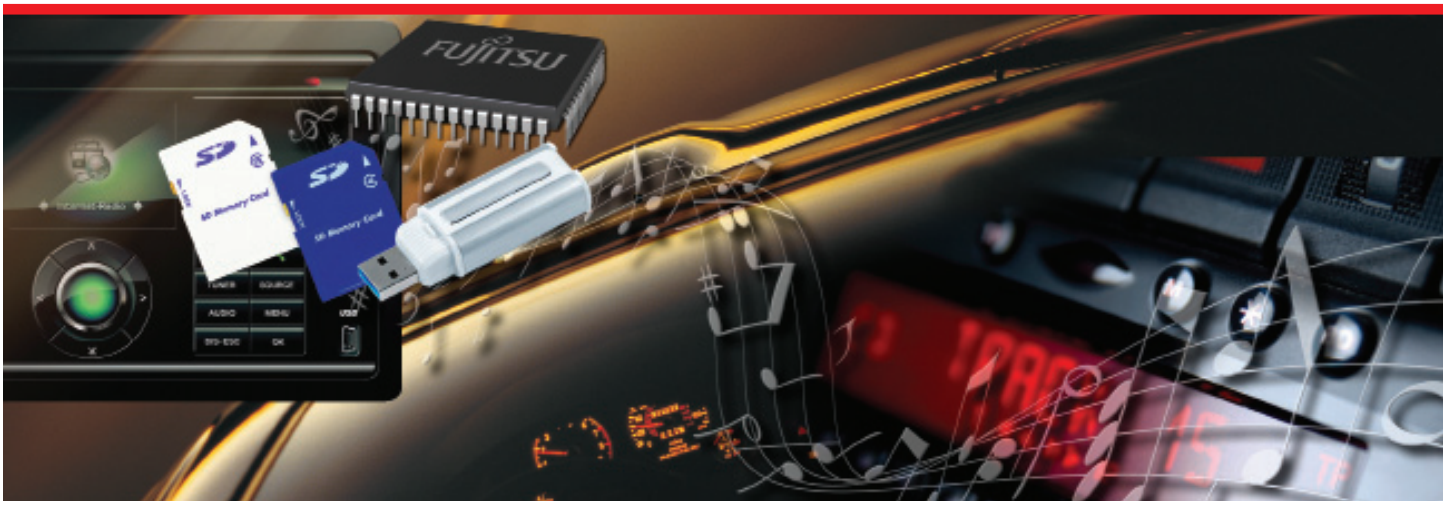
FS fact sheet

FUJITSU

MB9G711 Series ASSP

SoC for "CD-Less" Car Audio System



Description

The Fujitsu MB9G711 Series ASSP offers a low-cost System-on-a-Chip (SoC) solution for "CD-Less" car audio systems. The MB9G711 Series ASSP enables the decoding and playback of audio from portable MP3 players as well as from USB and SD interfaces. The chip supports the popular MP3, WMA, Ogg, and AAC audio formats.

Applications

- Low-cost solution to add digital audio playback from a variety of devices to car audio systems.
- Other applications include advanced car audio systems, data recording and industrial-control applications.

Benefits

The Fujitsu MB9G711 Series ASSP offers audio system designers the ability to create a "CD-Less" automotive audio entertainment system capable of playing the most popular digital audio files. By providing the option to eliminate the CD player, the MB9G711 Series ASSP allows for low-cost designs that can be free from mechanical failure, require less power, and fit in a smaller form factor.

The greatest benefit of the MB9G711 Series ASSP is in providing plug-and-play support for digital audio files. The chip allows consumers to enjoy digital audio files in their vehicles directly from their preferred MP3 players without needing an FM transmitter or CD-R / CD-RW. Supported audio files can even be played back directly from devices with a USB or SD interface, including USB thumb drives.

Reference Design Features

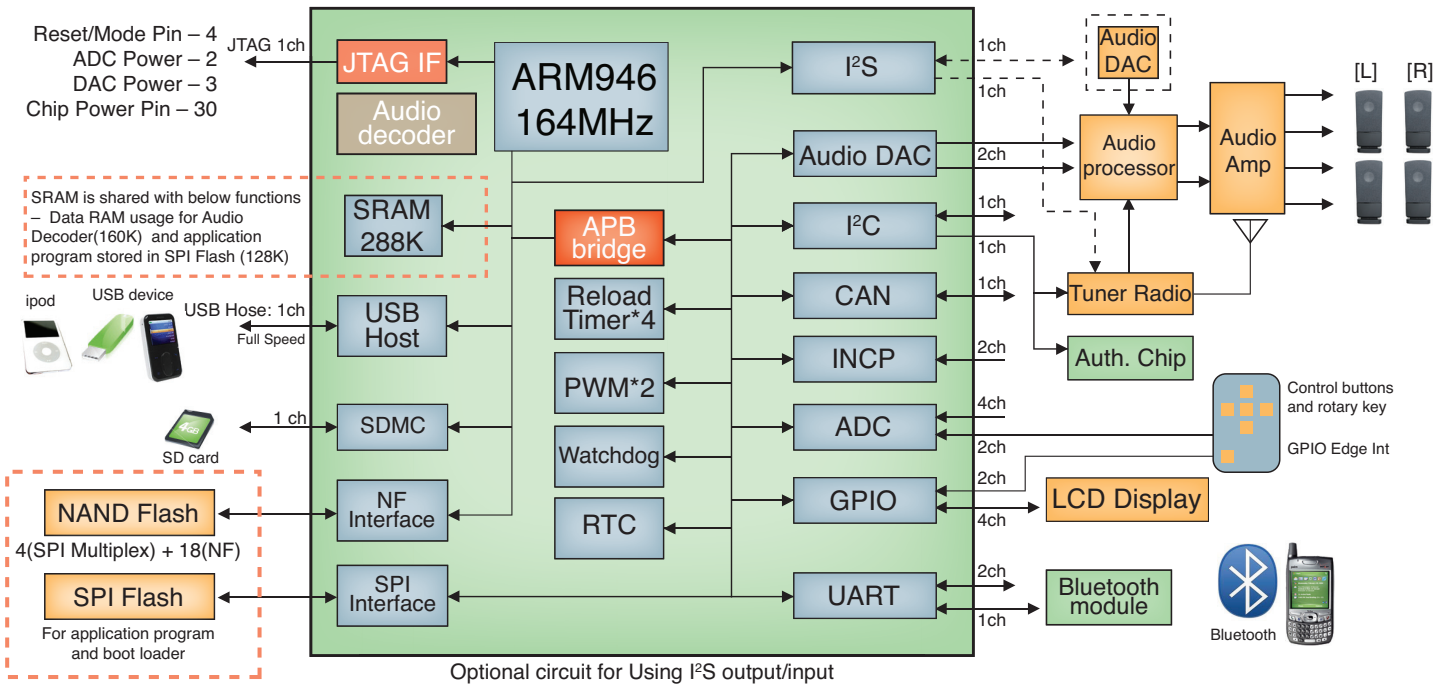
Fujitsu provides the LSI and a complete reference design package, including source code for ready implementation.



Available Now

- MP3/WMA/AAC/Ogg VORBIS audio playback via USB/SD
- LCD with 2-line, 16-segment characters
- +/-14dB bass and treble control
- Tuner function (AM/FM)
- RDS feature to display program service
- 10-band, real-time audio spectrum
- Apple iPod / audio playback via USB
- Bluetooth A2DP wireless audio transmission
- Bluetooth PBAP, Phonebook access
- Bluetooth HFP, hand-free speaker phone
- Bluetooth AVRCP, AV remote control
- 12/24 hour real time clock

System Diagram



Optional circuit for Using I²S output/input

MB9G711 Specifications and Product Family

Function	Outline
CPU Core	ARM946 processor core, core operation frequency: 164MHz, 32KB cache
Audio Support	MP3, WMA, Ogg, and AAC decoding
RAM	288KB SRAM for data RAM and ROM area mapping
UART	5 channels, software switchable between SIO and UART
I²C	2 channels, support for standard (100kbps) and high-speed (400kbps) modes
I²S	2 channels, audio output/input (L/R), selectable master/slave operations
Audio DAC	2 channels, 16/24 bit 48kHz audio DAC
ADC	6 channels, 10 bit ADC +/-2.0LSB (max)
USB 2.0 Host	1 channel, USB 2.0 host full speed
SDMC	1 channel, support for SD memory card, multimedia card and SDHC.
Memory Interfaces	SPI Flash, NAND Flash
Timers	2 ch PPG, 4ch reload timers,RTC and hardware watchdog
JTAG	Conformed to IEEE1149.1, support for JTAG ICE connection
CAN	1ch CAN2.0 option
OS	EFOS
Package	QFP144

Part Number	MP3	WMA	AAC	OGG	SD	SDHC	USB	CAN	I²C	I²S
MB9G711AB	Yes	Yes	No	Yes	Yes	Yes	Yes	1ch	2ch	1ch
MB9G711CA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	1ch	2ch	1ch
MB9G711CA-GS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	1ch	2ch	1ch
MB9G711DA	No	No	No	No	Yes	Yes	Yes	1ch	2ch	1ch

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Audio decoders are subject to licensing agreements with Thomson (MP3), Microsoft (WMA) and Via Licensing (MPEG2-AAC). The MB9G711 integrates parts of the licensed technologies. Final products require licenses from respective licensors. The SD card interface is subject to a licensing agreement with SD Association (SDA). Final products require a license from SDA. The MB9G711 does not integrate any licensed technology for iPod connections. However, final products including software to connect iPods require a license from Apple.

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