Symphony™ Family Comparison Table

	362	364	366	367	371	374	720	721	724	725
Frequency (MHz) DSP MIPS	120 120	100 100	120 120	150 150	180 180	150 150	200 400	200 400	250 500	250 500
RAM (Words)	**14K**	**3K**	**23K**	**23K**	**88K**	**18K**	**248K**	**248K**	**112K**	**112K**
External Memory	SRAM DRAM	SRAM DRAM***	SRAM DRAM	SRAM DRAM	–	–	SDRAM, SRAM, DRAM, EPROM, Flash	–	SDRAM, SRAM, DRAM, EPROM, Flash	–
Enhanced Serial Audio I/F (ESAI)	1	1	2*	2*	2	1 or 2**	4	4	4	4
Serial Host I/F (SHI)	1	1	1	1	1	1	2	2	2	2
Parallel Host I/F	8-bit	–	8-bit	8-bit	–	–	–	16-bit**	-	-
S/PDIF	TX	–	TX	TX	TX	–	TX/RX	TX/RX	TX/RX	TX/RX
Triple Timer	1	–	1	1	1	1	2	2	2	2
Additional Modules	–	–	–	–	EFCOP	WDT	ASRC WDT	ASRC WDT	ASRC, WDT	ASRC, WDT
I/O/Core Voltage	3.3/3.3	3.3/3.3	3.3/3.3	3.3/1.8	3.3/1.25	3.3/1.25	3.3/1.0	3.3/1.0	3.3/1.2	3.3/1.2
5V Tolerant I/Os	✓	✓	✓	–	✓	✓	✓	✓	✓	✓
Package	144 LQFP	100 LQFP	100 LQFP	144 LQFP	80 LQFP	52 and 80 LQFP	144 LQF	80 and 144 LQFP	144LQFP	80LQFP

* Share pins **Depending on package *** Byte wide

ESAI – Enhanced Serial Audio Interface
- Two dedicated Tx and four selectable Tx/Rx signals
- Allows glueless logic connection to industry standard codecs (I^2S, left justified, right justified and AC97)
- TDM capable
- Full duplex serial port for serial communications with DSPs, MPUs and MCUs

WDT – Watchdog Timer
- Used to recover from runaway code

EFCOP – Enhanced Filter Coprocessor
- Allows simple implementation of filters without burdening the CPU

ASRC – Asynchronous Sample Rate Converter
- Allows multiple audio data rates in a system. Capable of communicating directly to I^2S peripherals.
- Ten channels
- Supports input and output sample rates from 32 kHz to 192 kHz
- Supports three asynchronous input and three asynchronous output clock domains simultaneously

SHI – Serial Host Interface
- SPI or I^2C interface
- High-speed communication between multiple DSPs or between a DSP and an MCU or between a DSP and multiple serial peripherals

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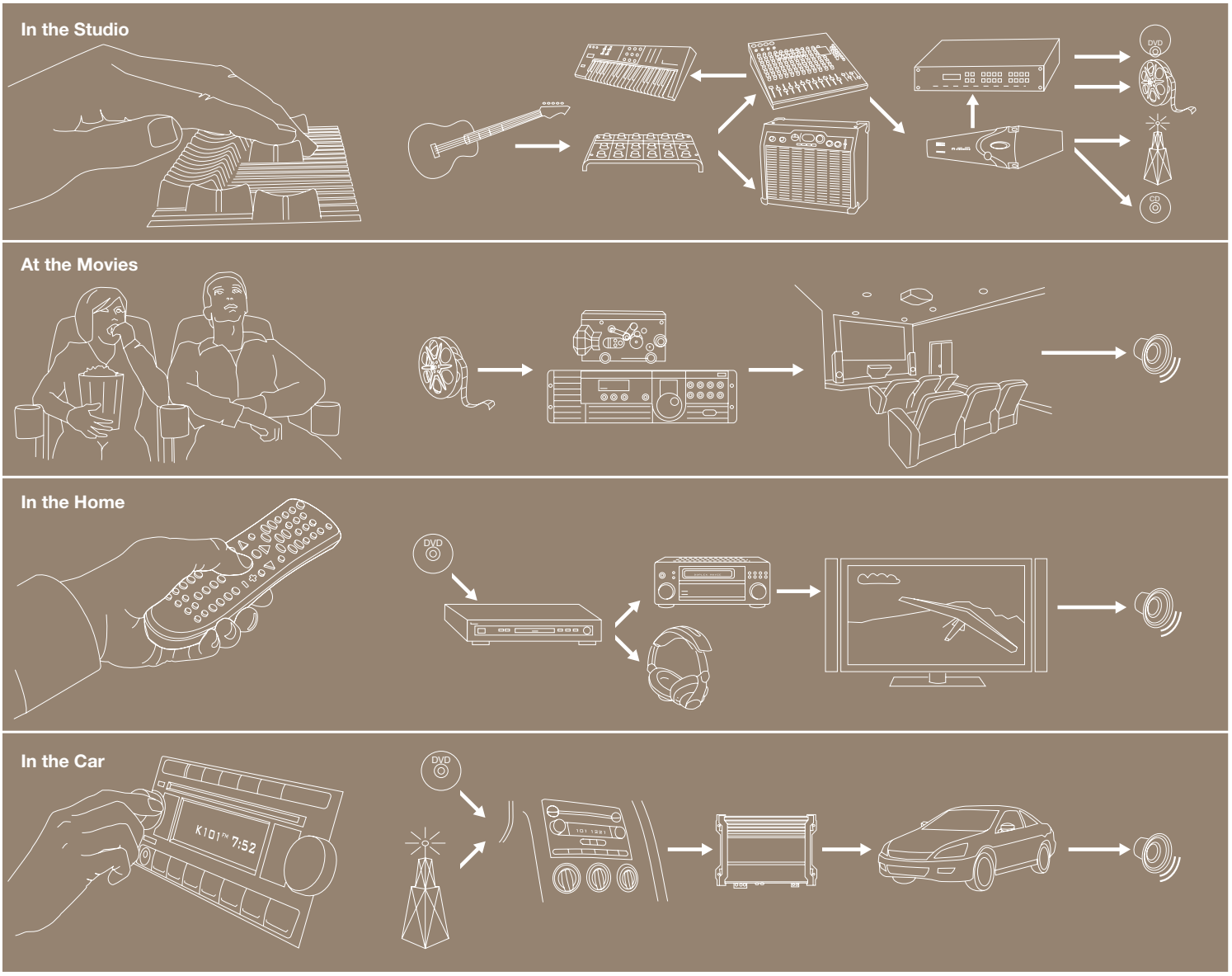
Symphony DSPs are used throughout the entire audio chain, from the creation of the musical content to the playback of this content.

The first step is to create the music or sound. Musicians and audio engineers use musical instruments, guitar amplifiers, effects processors and mixers to create the music that conveys the message they want to express. Signal processing with a Symphony DSP is used in all these steps to create the desired sounds. The next step is to master the content with recording and production. Then it's on to the playback, where Symphony audio DSPs are used for decoding and processing audio bitstreams. Whether it's at the movies through cinema equipment or in the home with a DVD player, A/V receiver, digital TV or accessories such as headphones, in the car through a radio or an external amplifier in the trunk, a DSP is involved to play it back the content as the creator intended it to be heard. Whenever you listen to the radio, a CD or watch a DVD or movie, you are likely listening to audio that has passed through multiple Freescale Symphony DSPs before reaching your ears.

Audio Chain



Learn More: For current information about Freescale products and documentation, please visit **www.freescale.com**.

You can find more information about Symphony audio DSPs at **www.freescale.com/symphony**.

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