



NXP ARM7-based
microcontroller with
integrated LCD controller
LH754xx and LH7952x

ARM7-based MCUs with integrated LCD controller

These flexible, powerful microcontrollers, based on ARM7 cores, integrate an LCD controller, so they save time-to-market for applications that use an LCD screen. Supported by comprehensive software and hardware design tools, they make it easy to design a wide range of applications.

Key features

- ▶ Powerful, flexible ARM cores
 - 84-MHz, 32-bit ARM7TDMI-S™ (LH754xx)
 - 77-MHz, 32-bit ARM720T™ (LH7952x)
- ▶ Integrated LCD controller
 - Support for STN, CSTN, TFT, and AD-TFT
 - Resolutions up to 1024 x 768
 - 16-level greyscale or up to 64k colors
- ▶ Integrated touch screen controller
- ▶ 16- or 32-bit external bus with optional SDRAM controller and NAND Flash boot capability
- ▶ Up to 32 KB of internal SRAM and 8 KB of cache
- ▶ Up to 10-channel, 10-bit A/D converter
- ▶ Multiple 16-bit counter/timers and multiple PWMs
- ▶ Real-time clock, Watchdog timer, and PLL
- ▶ Extensive selection of serial interfaces, including SSI/SSP, multiple UARTs, IrDA, I²C-bus, I²S, CAN 2.0B, USB 2.0 device, 10/100 Base-T Ethernet MAC
- ▶ 5 V - tolerant I/O
- ▶ Up to 104 GPIO
- ▶ Temperature range: -40 to +85 °C
- ▶ LQFP and LFBGA packages

Applications

- ▶ Any application that uses an LCD display
 - Consumer
 - Entertainment
 - Industrial/commercial
 - Medical
 - Automotive

These ARM7-based microcontrollers integrate an LCD controller, for powerful, flexible performance in all sorts of applications, including consumer, entertainment, industrial/commercial, medical, and automotive.

The LH754xx family uses a 84-MHz, 32-bit ARM7TDMI-S as its core, while the the LH7952x uses a 77-MHz, 32-bit ARM720T. They all use a 1.8-V core supply, with a 3.3-V I/O supply, and operate within -40 to +85 °C.

High integration and a range of options make it easy to select the right set of features, whether the end product is a low-cost consumer device or a media-rich system.

LH754xx family

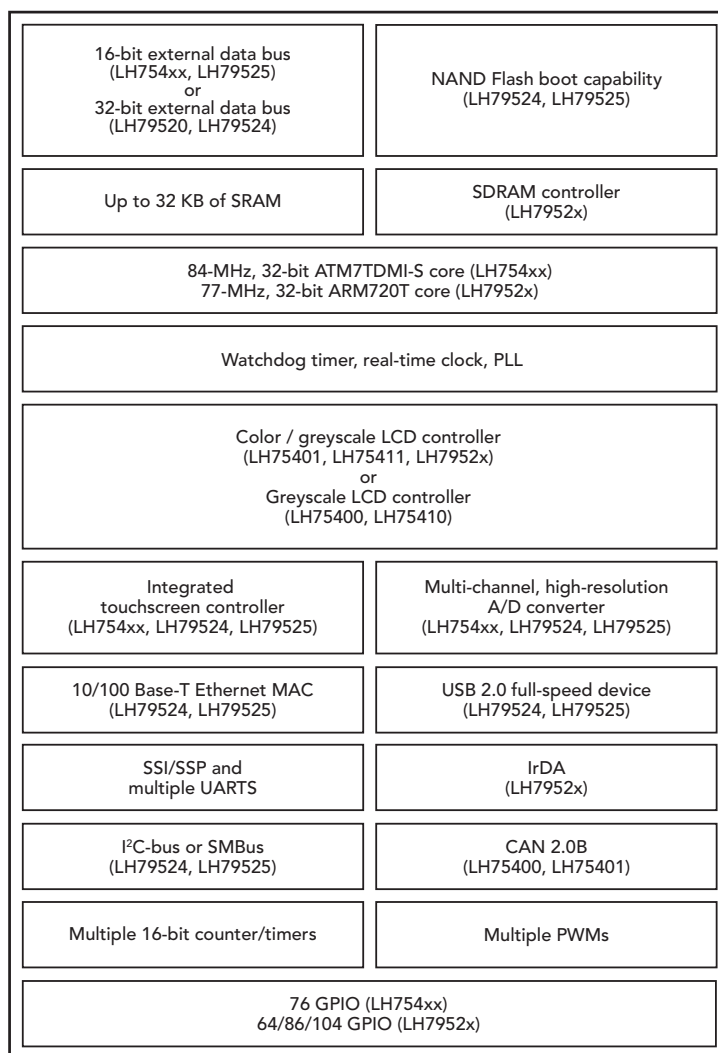
The four devices in the LH754xx family are LH75400, LH75401, LH75410, and LH75411.

LH7952x family

The three devices in the LH7952x family are LH79520, LH79524, and LH79525.

Third-Party Development Tools

Through third-party suppliers, we offer a range of development and evaluation tools for our microcontrollers. For the most current listing, please visit www.nxp.com/microcontrollers.



LH754xx and LH7952x block diagram

LH754xx and LH7952x selection guide

Type	CPU core	RAM	GPIO	LCD controller	A/D converter	Serial interfaces	Temperature range (°C)	Package
LH75400	ARM7TDMI-S	32 KB	76	1024 x 768 16-level greyscale	8 x 10-bit with touchscreen interface	SPI/SSP, 3 x UART, CAN 2.0B	-40 to +85	LQFP144
LH75401	ARM7TDMI-S	32 KB	76	640 x 480: 4096 colors 800 x 600: 256 colors 1024 x 768: 16 colors	8 x 10-bit with touchscreen interface	SPI/SSP, 3 x UART, CAN 2.0B	-40 to +85	LQFP144
LH75410	ARM7TDMI-S	32 KB	76	1024 x 768 16-level greyscale	8 x 10-bit with touchscreen interface	SPI/SSP, 3 x UART	-40 to +85	LQFP144
LH75411	ARM7TDMI-S	32 KB	76	640 x 480: 4096 colors 800 x 600: 256 colors 1024 x 768: 16 colors	8 x 10-bit with touchscreen interface	SPI/SSP, 3 x UART	-40 to +85	LQFP144
LH79520	ARM720T	8 KB (cache) 32 KB (SRAM)	64	800 x 600: 64k colors 1024 x 768: 256 colors		SPI/SSP, 3 x UART, IrDA	-40 to +85	LQFP176
LH79524	ARM720T	8 KB (cache) 16 KB (SRAM)	104	800 x 600: 64k colors 1024 x 768: 256 colors	10 x 10-bit with touchscreen interface	SPI/SSP, 3 x UART, IrDA, I ² C-bus, I ² S, USB 2.0 device, 10/100 Base-T Ethernet	-40 to +85	LFBGA208
LH79525	ARM720T	8 KB (cache) 16 KB (SRAM)	86	800 x 600: 64k colors 1024 x 768: 256 colors	10 x 10-bit with touchscreen interface	SPI/SSP, 3 x UART, IrDA, I ² C-bus, I ² S, USB 2.0 device, 10/100 Base-T Ethernet	-40 to +85	LQFP176

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