

SHARP

# LH77790B

INCLUDES:

- ARM7DI CPU Core
- Cache Memory
- Local SRAM
- Memory and Peripheral Interface
- DRAM Controller
- Three On-board UARTs
- Serial Infrared (SIR) Interface
- Pulse Width Modulator (PWM)
- LCD Controller
- Counter/Timers
- Interrupt Controller
- Parallel I/O

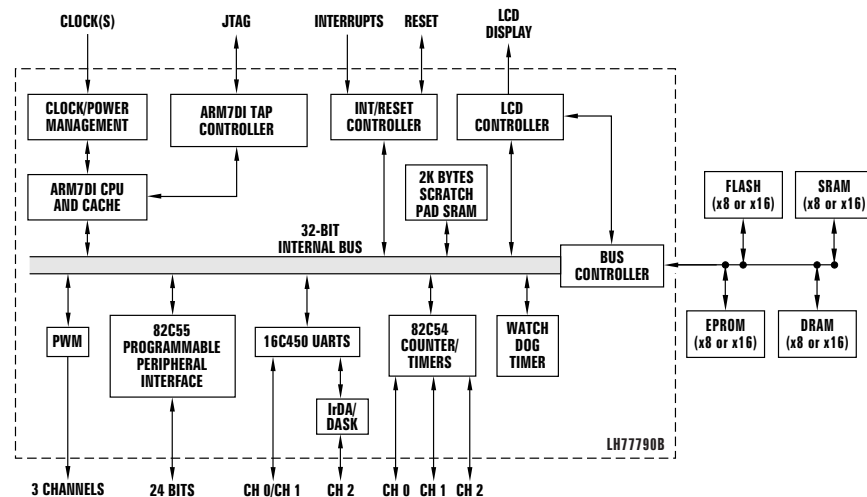
# LH77790B EMBEDDED MICROCONTROLLER

Sharp's LH77790B is an ARM7DI™ RISC-based microcontroller designed to meet the requirements of advanced portable systems with monochrome LCD panels. Its high level of integration — including instruction/data cache and static RAM — makes it ideal for handheld, battery-operated devices required to deliver high-speed performance and low power consumption. It also provides direct interface capability to monochrome LCDs, keyboards, non-volatile memory (typically Flash), RAM, and other communications ports and external peripherals.

By serving as an application-ready, 'system-on-chip' solution, the LH77790B gives designers substantial opportunity to reduce external components, save area, reduce power requirements and lower system cost.

It comes complete with valuable features like an LCD controller, no-glue memory interface (SRAM/DRAM/EEPROM/Flash), UARTs with infrared capability, PWMs, parallel I/O, counter/timers and power management.

The LH77790B is fabricated using Sharp's low-cost, high-volume 0.65 µm process technology. The 176-pin thin quad flat pack (TQFP) package offers easy integration in space constrained designs. Complete tools for hardware and software design speed development and drastically reduce design turnaround time.



LH77790B Block Diagram

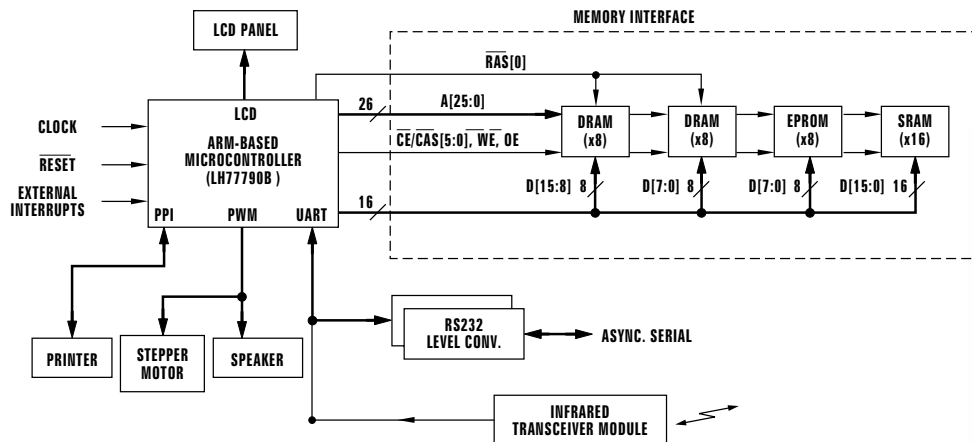
## Features:

- Highly Integrated Single Chip
- 32-Bit ARM7DI™ CPU Core
- 2KB Data/Instruction Cache
- 2KB Static RAM (4KB Without Cache)
- Programmable Clock and Power Management
- Programmable LCD Controller (passive, simple color, DMTN)
- On-Chip Interrupt Controller
- Three UARTs — 16450-class
- IrDA/DASK Infrared Interface
- Three Pulse Width Modulator Channels
- No-Glue Memory Interface
- On-Chip DRAM Controller
- 24-Bit Programmable Peripheral Interface
- Three 16-Bit Counter/Timer Channels
- Hardware Watchdog Timer
- Dual Voltage Range Operation
- 5 V TTL — 25 MHz
- 3.3 V LVTTTL — 16.7 MHz
- Package: 176-Pin TQFP

## Applications:

- Point-of-Sale
- Handheld Inventory Control Systems
- Barcode Scanners
- Industrial Instrumentation
- Medical Equipment
- GPS
- Handheld Communication Devices
- Games
- Personal Digital Assistants

For more information, call your nearest Sharp Microelectronics of the Americas regional sales office or 1-800-642-0261, Ext. ARM, or visit our web site at [www.sharpsma.com](http://www.sharpsma.com)



LH7790B Application Example

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