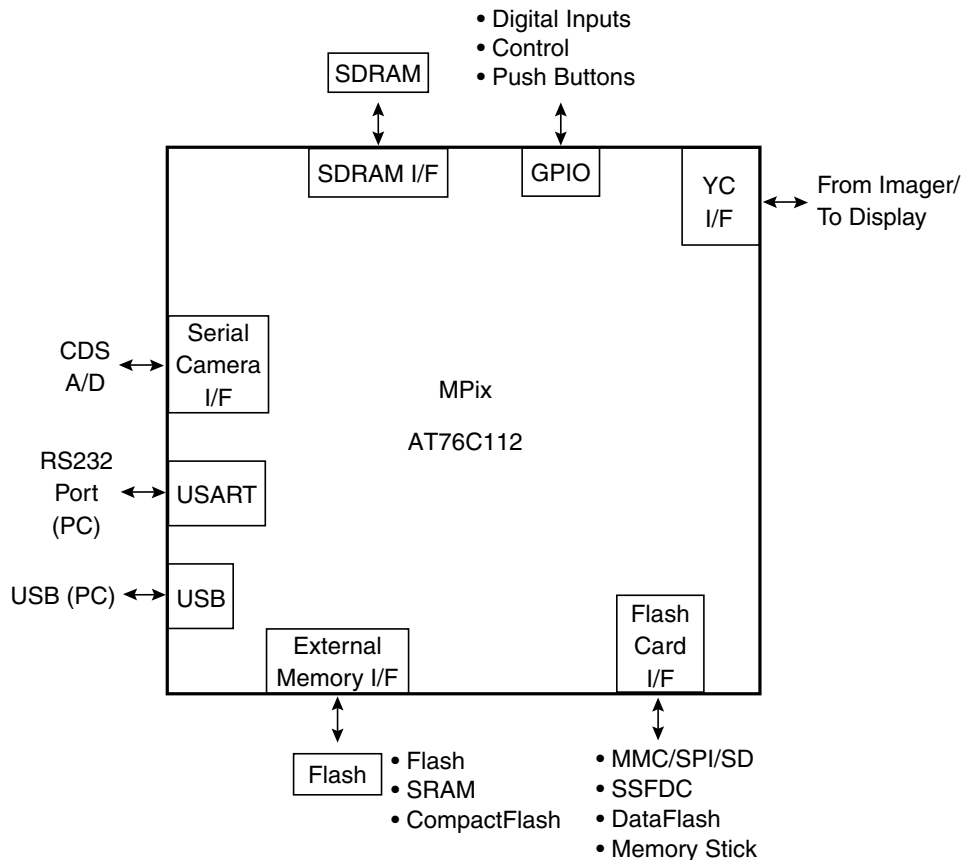


## Features

- Baseline JPEG Compression/Decompression
- Image Resize Engine
- 16-bit YC Digital Interface for CMOS Imager Input and Display Output
- Compatible with Various Types of Display Devices
- SDRAM Interface – Support from 16M Bits to 256M Bits
- Support for all Flash Card Interfaces (Atmel DataFlash®, MMC, SD, SSFDC, CompactFlash, Memory Stick)
- USB and USART Interfaces for PC Camera Applications
- 4 Dedicated External Interrupts, Timer Clock Input and Wake-up Pin
- Serial Interface for Controlling Camera Components
- 32 Pins for General-purpose I/O
- Up to 2M Bytes Program Space
- Support for RTOS
- All Low-level Software, Application Samples are Provided
- 208-pin BGA Package
- 1.8-volt Core and 3.3-volt I/O Operation

Figure 1. Typical DSC Application Using AT76C112



## High-Performance Digital Camera Processor

### AT76C112

### Summary

Rev. 2372AS-DIGICAM-08/02



Note: This is a summary document. A complete document is available under NDA. For more information, please contact your local Atmel sales office.

## Description

The AT76C112 is a highly integrated solution for digital camera and image playback devices. It combines a number of functions that are required for implementing such devices.

- Image data acquisition from CMOS imagers
- Image display
- Image processing and image storing
- Overall system management
- Control of general-purpose I/O functions
- Data communication
- Control of user functions
- On-screen display

It also provides a large number of interfaces that allow equipment manufacturers to directly access a variety of devices that may be present in a digital camera or image playback system.

- Communication with PCs
- Communication with Flash cards
- Serial communication ports for controlling other devices in the system

The design is based on an ARM<sup>®</sup> microprocessor that controls the entire chip. A number of hardware resources, controlled by ARM, perform digital imaging functions such as JPEG coding/decoding, image resizing, and DMA access to SDRAM. All these computational-intensive functions are implemented in hardware which can be programmed according to user specifications, thus allowing ARM to be free for other user-defined functions.

## Capabilities

- Supports up to 16 megapixel CMOS imagers
- Interfaces to 16- to 256-Mbit SDRAM, one or two pieces
- 15 frames/sec capture mode (VGA resolution)
- Up to 1.5M bytes/sec read/write from/to Flash cards
- 2M bytes external Flash ROM for program space
- 2M bytes external SRAM for program/working space (optional)
- Full-speed USB interface (mass storage and image class)
- Maximum 80 mA current in normal operation
- 1 - 5 mA in standby mode
- 50 - 100  $\mu$ A current in sleep mode



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